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THE

W. E. Scott
Sept. 1966

AMERICAN MAGAZINE

Mrs Frances A Clarke Book given her by her Mother Sept 13 1870

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VOL. III.

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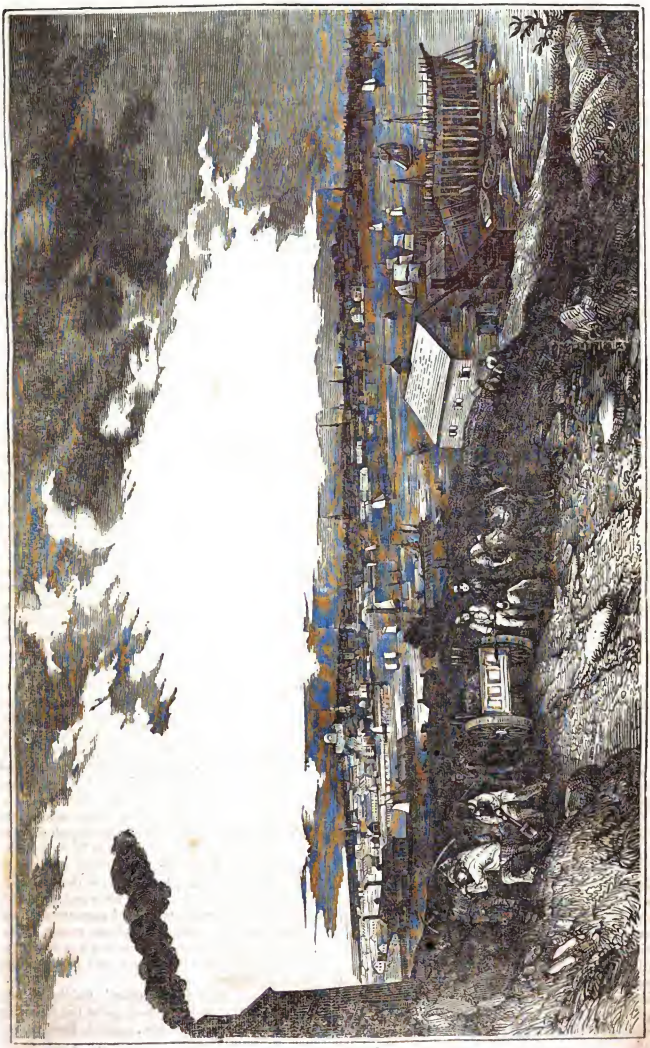

View of the city of Boston from South Boston.

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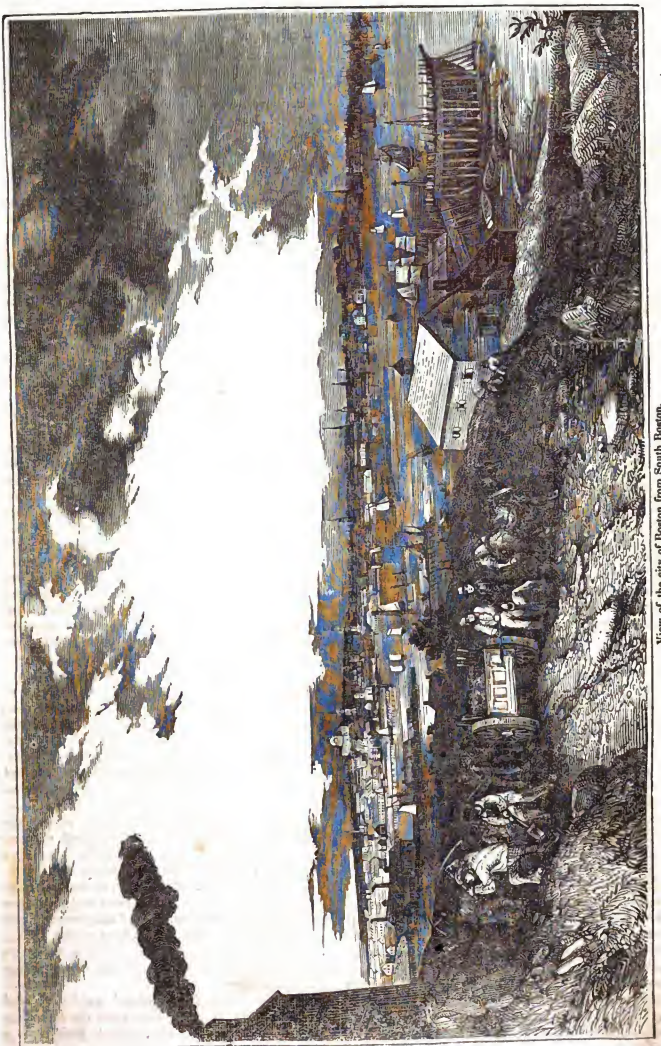


View of the city of Boston from South Boston.

THE CITY OF BOSTON.

In commencing the third volume of the American Magazine, it affords us much pleasure to present our subscribers with a new engraving of Boston, and the largest, we believe, that has hitherto been executed upon wood. The view was taken, as the fore-ground will show, near Mount Washington in South-Boston; and as it was desirable to embrace in the view as much of the city as possible, the different objects are necessarily represented truly in miniature; but, as a whole, the engraving gives a correct general representation of the metropolis of New-England, and forms, as we imagine, an embellishment of no small value to our popular periodical. Having said thus much in relation to the engraving, we shall now furnish the reader with an account of the metropolis itself, beginning with 'some curious narrations' about the early settlements, and their increase, by several of the old historians of the town, and concluding with a description of the city in 'all the sumptuousness of its enlargement, riches, and flourishing condition.'

One of the earliest descriptions of Boston is given by Wood, who visited the place, a few years after its settlement. 'This harbor,' says he, 'is made by a great company of islands, whose high clifts *shoulder* out the boisterous seas; yet may easily deceive any unskilful pilot; presenting many fair openings and *broad sounds*, which afford too shallow water for ships, though navigable for boats, and pinances. It is a safe and pleasant harbor within, having but one common and safe entrance, and that not very broad; there scarce being room for three ships to come in *board and board* at a time; but being once in, there is room for the anchorage of five hundred ships. The seamen having spent their old store of wood and water, may here have fresh supplies from the adjacent *islands*, with good timber to repair their weather-beaten ships. Boston is two miles N. E. of Roxbury. *His* situation is very pleasant, being a peninsular hemmed in on the south side, by the bay of Roxbury, and on the north side, with Charles river, the marshes on the back side being not half a quarter of a mile over; so that a little fencing will secure their cattle from the *wolves*. The greatest wants are wood and meadow ground, *which never were in this place*; being constrained to fetch their building timber, and fire-wood from the *islands* in boats, and their hay in *loyters*; it being a neck, and bare of wood, they are not trouble with these great annoyances, *wolves*, *rattlesnakes and musquetoes*. *These*, that live here upon their cattle, must be constrained to take farms in the country, or else they cannot subsist; the place being too small to contain many, and fittest for such as can trade into England, being the chief place for shipping and merchandize. This neck of land is not above four miles in compass, in form almost square, having on the south side, at one corner, a great broad hill, whereon is planted a fort, which can command any ship as she sails into the harbor within the still bay. On the north side is another hill, equal in bigness, whereon stands a windmill. To the northwest is a high mountain, with three little rising hills on the top of it, wherefore it is called Tramount. From the top of this mountain, a man may overlook all the islands which lie within the bay, and descry such ships as are on the sea-coast. This town, although it be neither the greatest, nor the richest, yet is the most noted and frequented, being the centre of the plantations, where the monthly courts are kept. The inhabitants of this place, for their enlargement, have taken to themselves farm-houses in a place called *Muddy river*, two miles from the town, where there is good ground, large timber, and store of marsh land and meadow. In this place they keep their swine and other cattle in the summer, *whilst the corn is in the ground at Boston*, and bring them to town in winter.'

Josseylin, who arrived at Boston in July 28th, 1663, says 'It is in longitude 315 degrees, and 42 degrees 30 minutes, of north latitude. The buildings are handsome, joyning one to another, as in London, with many large streets, most of them paved with pebble; in the high street towards the common, there are fair buildings, some of stone, and at the east end of the town, one among the rest, built by the shore, by Mr. Gibbs, a merchant; being a stately edifice, which it is thought will stand him in little less than £3000 before it be fully finished. The town is not divided into parishes, yet they have three fair meeting-houses or churches, which hardly suffice to receive the inhabitants and strangers that come in from all parts.'

Johnson describes Boston thus: 'Environed it is with brinish floods, saving one small *istmos*, which gives free access to the neighboring towns by land, on the south side, on the northwest and on the northeast. Two constant fairs are kept for daily *trafique* thereunto. The form of this town is like a *heart*, naturally situated for fortifications, having two hills on the frontier part thereof next the sea, the one well fortified on the superficies thereof, with a store of great artillery well mounted. The other hath a very strong battery built of whole timber, and filled with earth; at the descent of the hill, in the extreme *poynt* thereof, betwixt these two strong arms, lies a cove or bay, on which the chief part of this town is built, overtopped with a third hill; all these like overtopping towers, keep a constant watch, to see the approach of foreign dangers, being furnished with a beacon and *loud babbling guns* to give notice by their redoubled echo to all the sister towns. The chief edifice of this city-like town is crowded on the sea-banks, and wharfed out with great labor and cost; the buildings beautiful and large, some fairly set forth with brick tile, stone, and slate, and orderly placed with semely streets, whose continual enlargement presageth some sumptous city. The hideous thickets in this place *were such* that wolves and bears nurst up their young from the eyes of all beholders, in those very places where the streets are full of boys and girls, sporting up and down, with continued concourse of people. Good store of shipping is here yearly built, and some very fair ones. This town is the very mart of the land: Dutch, French, and *Portugalls* come here to *trafique*.'

In his 'Atlas Geographus,' published at London, in 1717, Herman Moll gives the following account of Boston: 'The capitol, Boston, is reck-

oned the biggest in America, except some which belong to the Spaniards. It lies on the coast, convenient for trade, defended by a strong castle in an island at the mouth of the harbor, and on the shore by forts on two or three neighboring hills which command the avenues. Here are abundance of fine buildings, both public and private, as the Court House, the Market-place, Sir William Phipps' house, &c. It has several handsome streets, and the inhabitants are reckoned about twelve thousand. They have four companies of militia, and three parish churches, besides a French church, and two meeting-houses, one for church of England men, and another for anabaptists. Three or four hundred ships have been loaded here, in a year, with lumber, fish, beef, pork, &c., for Europe *and America*. Here is a market every Tuesday, and two fairs in May, and October, which last three days each. 'Tis a very flourishing city, and for the beauty of its structures, and great trade, gives place to few in England.'

Thus, has Boston been described by the early writers. The quaintness of their style affords amusement, and it is highly gratifying and flattering to be reminded that the site of our busy and crowded city, was so recently occupied as a *corn-field*. It derived its name in honor of the Rev. John Cotton, who emigrated from Boston, in Lincolnshire, England, and this name was confirmed by act of court, September 7, 1630, O. S., from which the foundation of the town may be dated. Its original Indian name was Shawmut, and for a short time previous to its being called Boston, it was termed Trimountain. The *istmos*, that Johnson speaks of, or neck, as it is generally denominated, is at the south part of the city, and unites it to the thriving and beautiful town of Roxbury, and forms the basis of three great avenues, viz. Washington street, the Tremont road, and Front street. Boston is also connected by two bridges with South-Boston on the south-east, with Brookline by a solid stone causeway, called the Western avenue, on the south-west, with Cambridge by two bridges on the west, and with Charlestown by two bridges on the north.

The means of intercommunication between the town and country are abundant, there being besides those just enumerated, the Providence, the Worcester, and the Lowell rail-roads, the Winnisimmet ferry to Chelsea, and the ferry to Noddle's island, now called East-Boston; upon both of which, steam-boats for the conveyance of horses, carriages, merchandise, and passengers, are constantly plying. The great Eastern railway, also, whose depot is to be at East-Boston, is now in a course of construction, and when it shall have been completed, Boston will be the grand focal centre of four of the finest railways in North America. The surface of the peninsula upon which the city is built, swells into three eminences, viz. Copp's hill, Fort hill, and Beacon hill. Copp's hill received its name from its owner, a Mr. Copp, who was a shoemaker, and one of the elders in Dr. Mather's church. It rises rather abruptly from a point at the northern extremity of the town, about seventy-five feet above high water, and upon its summit is located one of the oldest burying-grounds in the city. From this spot the British cannonaded Charlestown in 1775, at the memorable battle of Bunker hill; for a full description of which, and the conflagration of that town, together with a view of the monument there erected, the reader is referred to the first volume of our magazine.

Fort hill is situated on the eastern border of the city, directly opposite the harbor, and is elevated about eighty feet above the level of the sea. First called Cornhill, it received its present name from a fort constructed on the top of it in 1632, in the building of which, the people of Roxbury, Charlestown, and Dorchester, worked in rotation. Fort hill is rendered famous by its having been a temporary asylum for Sir Edmund Andros, who repaired the citadel in the Boston revolution of 1689, where he and his accomplices were taken prisoners by the inhabitants, for tyranny and oppression. The old fort was demolished many years since, and no remains are now to be seen of the temporary works erected on its site during the revolutionary war. The summit of the hill has been levelled, and formed into a beautiful circular grass plat, with gravelled walks, and ornamented with forest trees.

Beacon hill is the most elevated spot within the peninsula—being one hundred and ten feet above high water. It is on the north-western side of the common, and affords an extensive prospect of the harbor, outer bay, and surrounding country. On this hill there were formerly three distinct eminences. The circumstance of these hills exhibiting the appearance of a mountain, when viewed by the first settlers, from the comparatively low grounds of Charlestown, probably led, as is observed in the Picture of Boston, to their calling the peninsula *Trimountain;* and from this is derived *Tremont*, a name which has been bestowed upon one of the finest streets in the city, upon one of the best constructed, and best regulated theatres, and upon one of the most celebrated public houses in the country. On the summit of Beacon hill was anciently fixed a *beacon*, whence the eminence has its name. The design of it was, by igniting a barrel of tar on the top of it, to alarm the country in case of invasion. This beacon was prostrated by the wind in 1789. In the year following, there was erected on the same place, a plain column of the Doric order, raised on its proper pedestal, and substantially built of brick and stone. On each square of the column were inscriptions commemorative of the leading events of the American Revolution. Incrusted with cement, it had at the top a large wooden eagle, gilt, and supporting the American arms. The diameter of the column was four feet; the height, including the eagle, sixty feet: and the base was encompassed with rails, on the front of which were benches, for the accommodation of those who ascended the hill.

This monument was taken down in 1810, and the four slabs containing the inscriptions commemorative of the events of the Revolution, are now to be seen in a recess of the State House, and the eagle is perched inside over the main entrance, or door in front. Beacon hill was soon after levelled, and elegant houses now occupy the place of the 'beacon, column, and eagle.' A writer has remarked, that 'Boston is not less distinguished for her *three* hills, than Rome for her *seven*.'

The harbor of Boston extends from Nantasket to the city, and spreads from Chelsea and Nahant to Hingham, containing about seventy-five square miles. It is bespangled with upwards of a hundred islands and rocks, and receives the waters from the Mystic, Charles, Neponset, and Manatticut rivers, with several other small streams. The most noted islands are Governor's island, and Castle island: the former is known also by the name of Fort Warren, and the latter by that of Fort Independence. They lie about two and a half miles easterly from the city, dividing the inner from the outer harbor, about one mile distant from each other; and the only channel for large ships passes between them. Bell Isle is to the north of Boston, on the Chelsea coast, with which it is connected by a bridge. Deer island, about five miles east, and Long island about five and a half east by south, command the outer harbor. Thompson and Spectacle islands lie south-easterly towards Squantum, and within the parallel of Long island. Rainsford or Hospital island is about one mile south-easterly from Long island. Gallop, George, and Lovel's islands lie east by south from seven to eight miles from Boston, and between Broad Sound and Nantasket road. Pethicks' island lies south of Hingham bay. The Light-house island, on which the light-house stands, lies south, sixty-nine degrees east, nine miles distant from the city. The Brewsters, Calf island, Green island, &c. lie northerly from the light-house, forming a chain of islands, rocks, and ledges, for about three miles to the Graves rocks, between which no ships attempt to pass. These numerous, and irregularly formed and situated islands add not a little to the beautiful appearance of the bay; and many of them are much frequented by pleasure parties in the season of summer. The water of the harbor is so deep that more than five hundred ships of the largest class can safely ride at anchor in it; while, as Wood stated nearly two hundred years ago, the entrance is so narrow as scarcely to admit two ships abreast. Boston enjoys uncommon advantages for commerce. She possesses more vessels than any other city in the United States, except New York, the amount of her shipping being about 200,000 tons. The value of her yearly imports is about $15,000,000, and of her exports $10,000,000. The wharves and piers are numerous and extensive, provided with large and substantial stores and warehouses, and with every convenience for the mooring and securing of ships. Her intercourse with foreign ports as well as those of her own continent, is becoming every year more extended and profitable. 'Her merchants are princes,' and her mechanics and manufacturers are among the most enterprising, liberal, and public spirited of the land. The city exhibits a very picturesque and imposing view when approached from the ocean; and, as Moll informs us, 'for the beauty of its structures, and great trade, gives place to few in England.'

The Common, containing fifty acres, is planted with upwards of five hundred trees, and is surrounded with a beautiful and substantial iron fence, the cost of which was 82,500 dollars.

The *town* was governed by nine selectmen, annually chosen by the people, till 1822, when it was incorporated into a city, and is now governed by a mayor, eight aldermen, and forty-eight common councilmen, elected by the citizens in the month of December of each year.

Boston is the seat of several literary and scientific institutions, among which are the following. The Atheneum with a library comprising 29,000 volumes, of very valuable books, the Boston Society for the Diffusion of Useful Knowledge, Young Men's Association for the Promotion of Literature and Science, Boston Lyceum, Hanover Lyceum, Handel and Haydn Society, and Boston Academy of Music.

Boston has been called the 'literary emporium of the western world,' and perhaps justly, for it is a fact that a greater portion of men distinguished for acquisitions of this nature have arisen in this city and the vicinity, than in any other part of the United States. Among the inhabitants of Boston are descendants from John Calvin, the distinguished reformer of Geneva; of Sebastian Cabot, the English navigator; of Dr. Wm. Ames, the author of Medulla Theologiæ; of Bishop Grindall, of John Fox, the Martyrologist, and of John Rogers, the first English martyr in the reign of Mary.

Many of the men who have been most eminent in the State and nation, have been natives, or for a long time citizens of Boston. The early clergymen, were men distinguished for learning as well as piety, and their successors have been of the same character. Cotton, Wilson, the Mathers, Oxenbridge, Norton, Allen, Davenport, Willard, Coleman, Prince, the Eliots, Byles, Thatcher, Wadsworth, Pemberton, Callender, Sewall, Cooper, Checkley, Mayhew, Gee, Walter, Condy, Stillman, Chauncey, Lothrop, Harvard, West, Belknap, Parke, Emerson, Buckminster, and Cheverus, were eminent scholars, and highly esteemed in their profession, by their friends in the denominations to which they respectively belonged.

Of distinguished laymen, a long list might easily be given. In early times there were Winthrop, Bellingham, Leverett, Stoughton, Cheever, Bulkley, Dummer, Cook, Brattle, the Sewalls, Belcher, Oliver; and in later periods, Otis, Bowdoin, Samuel Adams, Pratt, Gridley, Warren, Hancock, Dana, Hutchinson, Oxenbridge, Thatcher, Oliver, Quincy, &c.

The population at different periods has been as follows, viz.

In 1765,	15,520	1810,	33,250
1780,	16,000	1820,	43,298
1790,	18,038	1830,	61,392
1800,	24,937	1837,	80,000

The last is according to the present estimate; and if the population of the towns in the immediate vicinity, and which might properly be called the suburbs, were included in the enumeration, the aggregate within three miles of the heart of the city, would amount to more than 100,000 souls.

The entire colored population of the city is 1,757. They have three religious societies and places for public worship, and are supplied with one grammar,

and two primary schools, besides a few private schools.

The means of diffusing education through all ranks of society, at the public expense, were early provided in Boston, as well as throughout the commonwealth of Massachusetts. This has always been done by means of public schools, which have been established by law for the instruction of the children of all classes of people, in the rudiments of useful knowledge. It has always been considered desirable that the whole population of the city should be thoroughly educated, in order that public affairs, being directed by public opinion, might be managed intelligently by the whole body of the people, that the public might avail themselves of the services of men of the greatest talents, and that the advantages which the community are enabled to offer to individuals might be equally accessible to the children of all classes.

In the public schools, the children of the rich, the middling classes, and the poor, meet together, and early learn that, though wealth has some peculiar advantages, it is not the only nor the most essential requisite for public favor, or for success in life; an important lesson which they would learn nowhere else. The primary schools for young children, the grammar and writing schools for those farther advanced, the English high school for boys who wish to acquire a thorough English education, including the mathematics and philosophy, and the Latin school for such as wish to acquire a knowledge of the learned languages, or prepare for a collegiate course, are open and free alike to all who have the requisite qualifications of age and acquirements, whatever may be their rank in life. The instructers in these schools are men of education and experience, and are well paid, and highly esteemed by their fellow citizens.

The number of Grammar and High schools is fourteen, having in the aggregate about 4,750 scholars; and the primary schools, seventy-six in number, have about 4,000 scholars.

There always have been, and still are, a considerable number of private schools in the city, of various descriptions and grades, supported by individual subscriptions. Some of these are highly respectable, but it is not known that they offer advantages superior to the public free schools. The number of children and youth in constant attendance at the schools in Boston may be fairly estimated at 10,000.

An examination of the public schools takes place annually, on which occasion the principal officers of the city charged with the care of the schools, the instructers, distinguished pupils, and invited guests, partake of a public dinner. On one of these occasions a gentleman from Kentucky gave as a toast, the following sentiment, perhaps not less just than complimentary. 'Boston—the city of schools—and the school for cities.'

The charitable, benevolent, and humane institutions are the Asylum for the Blind, the Eye and Ear Infirmary, Lying-in Hospital, Provident Institution for Savings, Savings Bank for Seamen, Howard Benevolent Society, Female Orphan Asylum, Penitent Females' Refuge, Seamen's Friend Society, Seamen's Aid Society, Fatherless and Widows' Society, Children's Friend Society, Society for the Prevention of Pauperism, Asylum and Farm School for Indigent Boys, and various other societies and associations which dispense the charities of the benevolent with a liberal hand, and speak peace and comfort to the unfortunate and the afflicted.

Among the public buildings are the State House, City Hall, Court House, Jail, Faneuil Hall, Quincy Market, Hospital, Masonic Temple, House of Industry, and House of Reformation. There are about sixty churches, viz. twenty-five for Congregationalists, seven for Baptists, six for Episcopalians, five for Methodists, four for Universalists, three for Roman Catholics, besides some others for Free Will Baptists, Christians, Friends, and Swedenborgians.

The annual expenses of the city are from 350,000 to $500,000 of which about 88,000 are for the support of the public schools.

The number of Banks is thirty-six, with a capital of $23,100,000. The number of Insurance Companies is thirty-one, having a capital of $8,350,000.

AMERICAN EDUCATION SOCIETY.

The officers of this Society are the following: Hon. Samuel Hubbard, LL. D. *President;* William Bartlett, Esq. *Vice-President;* Hon. William Reed, and twenty-seven other Honorary Vice Presidents in different parts of the United States; Rev. William Cogswell, D. D. *Secretary,* Hardy Ropes, Esq. *Treasurer;* and Hon. Pliny Cutler, *Auditor.* Rev. Abiel Holmes, D. D. LL. D. Rev. Brown Emerson, D. D. Rev. Warren Fay, D. D. John Tappan, Esq. Arthur Tappan, Esq. Hon. Samuel T. Armstrong, Rev. John Codman, D. D. Rev. William Cogswell, D. D. Rev. Ralph Emerson, D. D. Rev. William Patton, D. D. and Rev. William Jenks, D. D. *Directors.*

This Society was instituted at Boston, in August, 1815, and was incorporated by an act of the Legislature of the Commonwealth of Massachusetts, December, 1816. Its object is to educate pious indigent young men for the gospel ministry; and it owes its origin to the great and increasing demand for pious and learned ministers. The first principal officers of the Society were His Honor William Phillips, *President,* Rev. John Codman, D. D. *Secretary,* Aaron P. Cleveland, Esq. *Treasurer,* and Rev. Asa Eaton, D. D. *Clerk* of the Board of Directors. The Society is national in its character; and it has bestowed its patronage upon young men from all parts of the United States, whose qualifications have been suitable, belonging to the following denominations, viz. Congregationalists, Presbyterians, Baptists, Episcopalians, Methodists, Lutherans, and Dutch Reformed; though most of its beneficiaries have been from the Congregationalists and Presbyterians.

The method of rendering assistance is by loans. An obligation is taken to refund with interest after five years subsequent to the completion of the beneficiary's education, and his entrance upon the active duties of his profession. The notes, however, of foreign and domestic missionaries, and of ministers settled over feeble churches, may be cancelled

at the discretion of the Board of Directors. No student in any stage of study receives more than seventy-five dollars per annum.

During the first years of the existence of the Society, very little agency was employed to advance its interests, and consequently, but little progress was made in its operations. Since October 12, 1825, there has been a Secretary and General agent, who has devoted his whole time to the services of the Society. The first agent of this kind appointed by the Society was the Rev. Joseph Harvey, D. D. of Goshen, Ct. He remained, on account of ill health, in the service of the Society but a short time. On his resignation, the Rev. Elias Cornelius, D. D. of Salem, Mass. was appointed to succeed him; and on the appointment of the Rev. Dr. Cornelius to the office of Secretary of the American Board of Commissioners of Foreign Missions, the Rev. William Cogswell, D. D. was elected to fill his place. As the institution has been extended in its operations, other agents have been employed to labor in its behalf.

The Board of Directors established a Committee of agency of their own members, as early as January 13, 1819. January 9, 1828, the name of this Committee was changed and its powers enlarged. It was called the Executive Committee, and invested with authority to act in behalf of the Directors, during the interim of the Quarterly Sessions of the Board. May 28, 1827, a Financial Committee was established for the purpose of superintending and managing the funds of the Society.

For the first ten years, the Society operated in different parts of the United States in a loose, irregular, and desultory manner. Societies and associations auxiliary to it were formed in various places of the land. Since then, it has, from time to time, become more systematic in its operations. In 1826 and 1827, Education Societies, which had been formed in Maine, New Hampshire, Vermont, Connecticut, and New York, (the latter extending over the States of New York, New Jersey, and Pennsylvania,) became connected with the American Education Society as branches. In 1829 and 1830, branch societies were formed for Illinois, Indiana, and that part of Ohio called the Western Reserve. In 1829 also, an agency was established at Cincinnati, Ohio; in 1831, agencies were established in East and West Tennessee, at Utica, N. Y. in 1833, and at Philadelphia in 1834. In 1830, an Auxiliary Society was formed for Rhode Island. Since 1829, county auxiliaries have been formed in most of the counties in the States of Maine, New Hampshire, Vermont, Connecticut, and Massachusetts. It should be observed, however, that previously to 1818, four county societies had been formed within the bounds of Massachusetts. July 13, 1831, the Presbyterian branch was re-organised and greatly extended in its operations.

The plan of pastoral supervision of the beneficiaries was early adopted, and in some measure carried into execution. Persons were specially appointed to visit the young men for this purpose. Since 1826, this service has been more fully performed, and been attended with happy effects on the beneficiaries and the cause generally. The object, as expressed in a rule of the Society, is thus stated:—'The Secretary shall be required to exercise, so far as he shall be able, pastoral supervision over all who are under the patronage of the Society, by visiting them at the places where they reside, and conversing and praying with them individually and collectively; corresponding with them and their instructers, and by other means calculated to excite them to effort, and to encourage them to seek an elevated spirit of piety.'

The receipts of the Society from year to year, as appears by the annual reports, are as follows, viz.

1816,	$5,714,	1827,	33,094,
1817,	6,436,	1828,	31,591,
1818,	5,971,	1829,	30,084,
1819,	19,330,	1830,	30,710,
1820,	15,148,	1831,	40,450,
1821,	13,108,	1832,	42,030,
1822,	15,940,	1833,	47,836,
1823,	11,545,	1834,	57,818,
1824,	9,454,	1835,	83,062,
1826,	16,596,	1836,	63,227,

making $579,144. It appears by the above statement, that a greater sum of money has been received during the last *five* years than during the fifteen preceding years.

The results of the Society have been as follows. It has assisted since its formation more than twenty-seven hundred young men. The number aided in each succeeding year, from 1816 to 1836, is as follows: 7, 138, 140, 161, 172, 205, 195, 216, 198, 225, 156, 300, 404, 524, 604, 673, 807, 912, 1,040, and 1040. Of those who received aid from the funds of the Society during the last year, 223 were connected with seventeen theological seminaries, 507 with thirty-five colleges, 310 with 107 academical and public schools; making in all 1040 young men connected with 159 institutions. About 1000 individuals who have received its patronage, have already entered the Christian ministry, sixty of whom have gone forth as missionaries to the heathen.

The whole amount which has been refunded by former beneficiaries, is as follows: during the eleven years preceding April 30,

1826,	$339,60,	1832,	1,312,77,
in 1827,	90,00,	1833,	2,113,27
1828,	864,22,	1834,	1,947,78
1829,	830,91,	1835,	2,957,14,
1830,	1,007,84,	1836,	4,332,53,
1831,	2,647,63,	making	$18,443,69.

The sum of earnings by the beneficiaries for labor and school-keeping, reported from year to year, for the last ten years, is as follows, viz.

1827,	$4000	1832,	15,568,
1828,	5,149,	1833,	20,611,
1829,	8,728,	1834,	26,268,
1830,	11,010,	1835,	29,829,
1831,	11,460,	1836,	33,502.

The whole amount is $166,125

In 1827, the Society established a periodical, which is now called the American Quarterly Register. It contains a great mass of literary and ecclesiastical statistics, and various treatises relating to education and the Christian ministry.

[The Constellation of the Great Bear.]

THE CONSTELLATION OF THE GREAT BEAR.

This constellation is readily distinguished by seven remarkably conspicuous stars. It never goes below the horizon in this latitude. Two of these seven stars are called the *pointers*, because they serve to point out the north-pole star, or cynosure, which is in the tail of the *little bear*. The *great bear* has been an object of observation in all ages of the world. The wise men of the East, and the shepherds of Chaldea, seem to have particularly noted the outlines of this constellation; and it is a matter quite worthy of speculation, that the Iroquois Indians and the wandering Arabs should have given it the same name, by which it is still known; especially when we remember that in reality it bears no resemblance to any animal. The seven stars mentioned above form that cluster which has been variously named the *plough*, the *dipper*, and the *wagon*. Sometimes these seven have been considered as the whole, and therefore called the *great bear*. As these stars will be readily found by any person who looks toward the north in a clear evening, we have thought best in giving a popular description of the constellations to begin at this, as a starting point and a beacon to guide us on. Any one who is desirous of studying the stars, will we hope in a gradual way be able to learn them easily, as we shall give a description of those only which the reader can easily find in the evening, during the month this Magazine shall appear.

In the whole constellation there are eighty-seven stars visible to the naked eye; one is of the *first magnitude*, three of the *second*, and seven of the *third* and fourteen of the *fourth magnitude*. When on the *meridian below the pole*, the *pointers* are the two easternmost of the seven stars above-mentioned; eight degrees west of the pointers are two stars forming with the pointers the body of the dipper, from the upper of which rises the handle, consisting of three stars. The left fore and hind knees have each a star of the third magnitude; the left fore paw and both the hind paws are marked by two stars in each, these six are the only stars in this constellation that ever set in our latitude. There are other bright stars in this cluster, but the seven forming the dipper or plough, are so much more conspicuous that the rest are seldom thought of. In forming the constellations the ancients might have assigned the bear to this; because bears are natives of the northern regions, and descended at certain seasons from the cold regions into the fertile fields of the south, destroying their flocks and herds.

METEORIC STONES.

[From an old 'English Magazine.']

'Look up and see a new wonder. The name of the town is Hatford, in Berkshire, some eight miles from Oxford, April 9, 1628, about five of the clock in the afternoon. The weather was warm, without any great show of distemperature; a gentle gale of wind from west to northwest; in an instant was heard first a hideous rumbling in the air, and presently after followed a strange and fearful peal of thunder; it maintained the fashion of a fought battle. It began thus: first, for an onset, went off one great cannon as it were of thunder alone, like a warning-piece to the rest that were to follow. Then, a little while after, was heard a second; until the number of twenty were discharged, or thereabout.'

'In some little distance of time after this, was audibly heard the sound of a drum, beating a retreat. Amongst all these angry peals shot off from heaven, at the end of the report of every crack, a hissing noise made way through the air, not unlike the flying of bullets from the mouth of great ordnance, and by judgment were thunderbolts; for one of them was seen by many people to fall at a place called Bawlkin Green, being a mile and a half from Hatford; which thunderbolt was by one Mistress Greene caused to be digged out of the ground, she being an eye-witness amongst many others of the manner of the falling.

'The form of the stone is three-square, and picked at the end; in color outwardly blackish, somewhat like iron; crusted over with that blackness about the thickness of a shilling; within, it is

soft, mixed with some kind of mineral, shining like small pieces of glass. This stone broke in the fall. The whole piece is in weight nineteen pounds and a half, the greater piece that fell off weigheth five pounds, which, with other small pieces being put together, make four and twenty pounds and better. It is in the country credibly reported, that other thunder-stones have been found in other places; but for certainty there was one taken up at Letcombe, and is now in the custody of the sheriff.'

'Upon Thursday, the 4th day of August, 1642, about five o'clock in the afternoon, there was a wonderful noise heard in the air, as of a drum beating most fiercely, which after a while was seconded with a long peal of small shot, and after that a discharging as it were of great ordnance in a pitched field. This continued with some vicissitudes for the space of one hour and a half, and then making a mighty and violent report altogether; at the ceasing thereof there was observed to fall down out of the sky a stone of about four pounds weight, which was taken up by them who saw it fall, and, being both strange for the form of it and somewhat miraculous for the manner of it, was by the same parties, who are ready to attest this truth, brought up and showed to a worthy member of the House of Commons, upon whose ground it was taken up, and by him to divers friends, who have both seen and handled the same. Now, the manner of finding the stone was on this wise: one captain Johnson and one master Thompson, men well known in that part of Suffolk, were that day at Woodbridge, about the launching of a ship that was newly builded there; who, hearing this marvellous noise toward Alborow, verily supposed that some enemy was landed, and some sudden onset made upon the town of Alborow; this occasioned them to take horse and hasten homewards, the rather because they heard the noise of the battle grow louder. And being at that instant, when that greatest crack and report was made in conclusion, on their way upon an heath betwixt the two towns, Woodbridge and Alborow, they observed the fall of this stone, which grazing in the fall of it along upon the heath some six or seven yards, had outrun their observation where it rested, had not a dog, which was in the company, followed it by the scent, as it was hot, and brought them where it lay covered over with grass and earth, that the violence of its course had contracted about it. This is the true relation of the finding of the stone, which is eight inches long, and five inches broad, and two inches thick. And now, being on their way nearer Alborow, they met the greatest part of the town's folk, who were generally all run out of their houses round about, amazed with this noise of war, and descrying no enemy near; when suddenly there was heard a joyful noise as of music, and sundry instruments in a melodious manner, for a good space together, which ended with an harmonious ringing of bells. This is the true relation of this most strange sign from heaven.'

NEWTON says, that bodies are transparent when the pores are so small as to prevent reflection. So that the hardest bodies may be very transparent.

CHANTREY'S WASHINGTON.

Look on that brow! 'T is full of life,
Of deep ennobling thought.
The artist's skill with magic rife
How true each feature wrought.

Gaze on! The lofty mildness there
That marked his living mind,
His calm, his fixed unwavering air,
His love of all mankind,—

All glow divinely in that face
Portrayed with matchless skill—
How well the stone in every trace
Obeyed the Sculptor's will.

* * * * *

Lo, gathering round thy noble form
Thy children greet and bless thee here—
Thine was the soul, that, 'mid the hurtling storm
Still rose triumphant o'er tyrannic fear.

The good and brave, the young, and fair,
Shall mingle in the just acclaim;
E'en tottering age shall wander there,
And infant tongues shall lisp thy name.

Millions shall crowd around thy shrine,
BLEST FATHER of the FREE!
Shall ask, in peril's morn, the power divine
To grant another guide like thee.

But where are *those*, who at thy side
Met danger's wrathful eye?
Where now are *they*?—thy hope, thy pride—
'Thy hope, thy pride,' the echoes sigh.

My country's pride! My country's shame!
Where are those valiant men?
Time-honored! have they yet a name?
'A name,' the echoes sigh again.

Alas, ye claim *them* for your own,
Dread poverty and wo!
Who braved the battle-storm alone,
When others fled the foe.

Ah, shall my country, in the day
Of Freedom, they have won,
Do nothing to unclouds the ray
Of their declining sun?

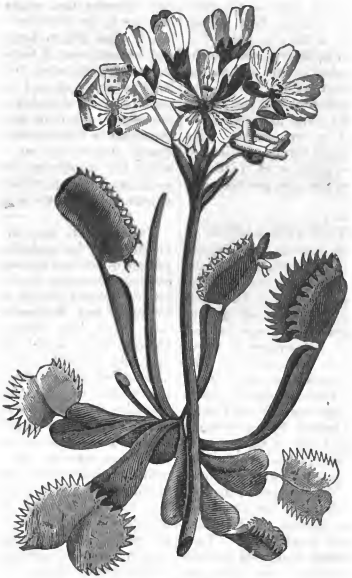
My country wake your long repose,
Awake, be just—be true,
And bless the lingering days of those
Who fought and bled for you.* P.

* 'I rejoice (as who does not) that the injustice of my beloved country can no longer be complained of, in regard to the survivors of that revolution, that redeemed not the new world only, but the old also, from the thraldom of the few.

Late though it came, the grateful boon was given
That smooths the tottering steps of age, just entering heaven.

NOTE.—The above lines appeared in a Boston paper, in Jan. 1823, when a bill was before Congress for providing compensation to the surviving officers of the continental army of the Revolution; and whose petition had then been long before Congress.

IRISH BULL.—Curran was one day proceeding to the castle to attend a drawing-room. There was much confusion and jostling among the carriages. Suddenly, Curran let down one of the front glasses of his chariot, and cried out to his coachman, stop, stop; the pole of the carriage behind has just come into the back of ours. Then be *asy*, your honor, its all right again; our pole has just gone through the back of the carriage before us.'



[Venus's Fly Trap.]

VENUS'S FLY-TRAP.

Some parts of this plant are so remarkable as to deserve a particular description. It is a native of North Carolina; the root perennial; leaves all radical, supported on long fleshy and strongly veined footstalks, leaving a small portion of this next the leaf naked: the leaf itself consists of two semi-oval lobes jointed at the back, so as to allow them to fold close together; they are fleshy, and, when viewed through a lens, glandular, sometimes of a reddish color on the upper surface; the sides of both lobes are furnished with a row of cartilaginous ciliæ which stand nearly at right angles with the surface of the leaf, and lock into each other when they close. Near the middle of each lobe are three small spines, which are supposed to assist in destroying the entrapped insect. In warm weather the lobes are fully expanded and highly irritable, and if a fly or other insect at this time light upon them they suddenly close, and the poor animal is imprisoned till it dies. The greater the struggling the firmer the clasp, and it is either crushed or starved to death; then the irritation having ceased, the lobes again separate. Irritation with a stick or any substance, produces the same effect. The plant bears a profusion of white flowers or stems, about six inches in height. Here we may recognise the plan of nature, under a new model, viz. the relation of parts to one another, to a common office, and to the utility of the organized body to which they belong. The attracting sirup, the rows of strong prickles, their position so as to interlock, the joints of the leaves, and more than the rest, that singular irritability of their surfaces, by which they close at a touch; all bear a contributory part in producing an effect connected with the defence or with the nutrition of the plant.

COLD SEASON.

The present season has been one of the coldest, if not the very coldest for many years. Indeed, it is believed, that no record and no living chronicle can testify to a summer of so few warm days; not more than ten or twelve have we heard of the mercury rising above 84; and only two or three above 90. Of weather sufficiently warm for the common growth and ripening of corn, fruit and vegetables, there has not been half the days on an average of summer heat. It is even surprising that the corn and fruits have grown at all approaching to maturity. And when there have been a few warm days, the nights have been cold and chilly. Many nights in July and August, were like those of the last of September or first of October.

If we ask the cause, we receive no satisfactory answer. We have heard of no spots on the sun's

disc, to prevent the emission of heat, or (in other words) of light which might excite heat in our atmosphere. And whenever a day, or part of a day, we have felt the heat of summer, a cold northeaster or northwester has rushed in and driven the soft influence to some distant region. It is said the *Icebergs* have been numerous and very large, on and near the grand banks; and that their chilling influence has extended to our shores. This may be one cause; but it seems hardly sufficient to account for the effect. The summer of 1816 was unusually cold; but the one just past has been still colder.

ORIGINAL CONDITION OF THE EARTH.

There have been various theories, by philosophers, of the formation and original condition of the earth. The two principal ones are those of the Vulcanists and the Neptunists. The Vulcanists suppose, that it was at first in a state of igneous fusion; that it gradually cooled, and was covered with water at a later period. According to them, the land was raised up by an internal force. Air and caloric were the powers which caused its present form. The Neptunists contend, that the earth was originally in a state of aqueous and cold solution, and solid bodies were formed by precipitation and crystallization; and that a part of the primitive ocean has disappeared in consequence of the land sinking down by its own weight. The Egyptians adopted the latter theory. They supposed that the water once covered the whole earth; but afterwards retired to vast cavities in the interior of the globe, from which they may again break forth. They also believed that a great island had sunk into the bosom of the sea, between what is now Africa and South America. It is said that the Chaldeans and Hebrews held the same opinion, and that the Hebrews derived it from the Egyptians; and these from the Chaldeans. Each of these two ancient hypotheses have had supporters among modern philosophers and geologists. But the Vulcanian theory is generally considered as attended with the fewest difficulties. Werner favored the Neptunean theory, and contended that the present condition could not be accounted for on the supposition of fire and heat as the causal or forming power of the earth. But Hutton has endeavored to answer the objections of Werner, and to show that the Vulcanian hypothesis was more satisfactory than the Neptunean. He shows by experiments, that substances decomposed by heat would preserve their composition at the same temperature, if subjected to a great pressure. There are great objections to both these theories. Organic remains found in the upper strata of the earth appear inconsistent with the formation by fire, and indicate a watery medium as their original matrix; and, on the other hand, there is a difficulty in the theory of the Neptunists, which Werner advocated; viz. the original fluid state of the globe, previous to the existence of living creatures and subsequent revolutions in the earth, is unaccounted for on this hypothesis. The power, both of water and of heat, is known to be very great; when the heat is intense, and when the water is violently moved in great masses. And we can conceive that either may produce immense changes in the structure of the earth. We have heard what effects have been wrought by floods and freshets; but if the waters of the whole globe are strongly attracted by the near approach of a large planet, and the fountains of the great deep are broken up, a mighty, universal change must be the effect. So, if by any process of nature, heat is generated in the bowels of the earth to an extraordinary degree, and an explosion takes place, (of which any volcano we have ever heard was but a miniature,) the convulsion must be terrific, and the alterations great beyond conception.

Frederic II. king of Prussia, has been called *Great;* and he ranked among the most renowned princes of the last century. He had a strong mind and some learning; but he was reputed great chiefly for his military talents, as were Alexander, Cæsar, Cromwell and Bonaparte. He was feared rather than loved, and admired rather than esteemed. Happily for the world, such characters are not now generally esteemed and honored as *great* men. The age of military glory, we trust has passed; and the friends of peace, and virtue, and liberty, and humanity may expect the highest honors and plaudits of their fellow men. The people in Christian countries are now so enlightened and improved, that their homage will be paid rather to the pacificator, the disinterested patriot, and the promoter of moral improvement, than to a noble robber or one who boasts that he has slain his thousands. The advocates for peace are exerting a salutary influence in society; and the progress of Christian truth and charity must give powerful aid in the future repose of the world. Every individual may assist in the work of an extensive regeneration, by cultivating and following the spirit of the gospel.

God and my Country.—The usual question asked a criminal in England, is, how he will be tried; and the answer he is directed by his counsel to give is, 'by God and my country.' Barrington says it was originally, 'by God, or my country; that is, by *ordeal*, or by a Jury. The question supposes an option in the prisoner; and the answer is meant to assert his innocence, by declining neither sort of trial.

The colleges in the New England States appear to be in a flourishing condition. The annual commencements have lately taken place; and the accounts afford proof of their prosperity and increase. The number of the pupils keeps pace with our population; and the exhibitions give evidence of good scholarship. This augurs well for our country. Learning and virtue are our best treasures and our best security. Colleges are also rising up in the south and west, in such numbers as to excite the best hopes. May they prove nurseries of sound learning, and pure religion, and free inquiry.

Let not thy jests, like mummy, be made of dead men's flesh. Abuse not any that are departed; for to wrong their memories is to rob their ghosts of their winding-sheets.

CENTENNIAL CELEBRATION IN HARVARD UNIVERSITY, CAMBRIDGE.

On the eighth of September, there was a great meeting of the graduates of Harvard university in Cambridge, and of its officers, its patrons, and benefactors; of the officers and graduates of several other colleges; of the friends of learning, and of many of the civil fathers of the commonwealth; to commemorate the origin of this ancient and venerable literary institution. It was indeed a proud day for HARVARD COLLEGE. The number of the sons of this renowned seminary, who attended on the joyful occasion, was estimated at *fifteen hundred.* We are led to believe on careful inquiry, that this is not an exaggerated estimate. There were several, and they chiefly of the clergy, of eighty and eighty-five years of age, and who received their degrees in the university upwards of sixty years ago; and many more, who were graduated half a century since. Several worthy sons from New Hampshire and Maine attended; and distinguished gentlemen from New York and South Carolina. It was particularly gratifying to see the President of Amherst college, and officers of other literary institutions of New England. At the commencement anniversary, which was the preceding week, the Presidents of Amherst, of Brown, and of Columbia (New York,) colleges, were present. The friends of education, of good learning, and of Christianity, must rejoice in this intercourse. It will prove a benefit both to the interests of literature and of religion. May such meetings and intercourse be more frequent.

The public address, on this occasion, was by Mr. Quincy, the able president of the university. He dwelt on the happy influence of learning on our social, civil and religious interests; and described with much minuteness the efforts made by the first settlers of Massachusetts for founding a college, for the welfare and improvement of coming generations. A just tribute of praise was given to those pious and good men, friends of learning and of liberty, who, while enduring great personal privations, and struggling almost for existence, laid the foundation of a college, for the liberal education of their children and posterity. For they were aware, that neither civil nor religious liberty could be maintained without the aid of human learning; and they believed, that the best antidote to superstition and error, and the surest support of piety and virtue, were to be found in true philosophy. An original and appropriate hymn was sung on the occasion; the last verse of which was as follows:

> Farewell! Be thy destinies onward and bright!
> To thy children the lesson still give,
> With freedom to think, and with patience to bear,
> And for RIGHT ever bravely to live.
> Let not moss-covered error moor thee at its side,
> As the world on Truth's current glides by;
> Be the herald of Light and the bearer of Love,
> Till the stock of the Puritans die.

For the accommodation of the sons of the college, its officers, and invited guests, (who were very numerous,) for refreshment, after the services in the church were concluded, a spacious pavilion was erected, capable of containing, when seated, nearly two thousand persons. The pavilion was well divided or arranged; and a good deal of taste was displayed in some parts, especially the orchestra. The venerated names of *Dunster* and *Chauncey,* the two first Presidents, were also tastefully displayed, on arches covered with evergreens, over the two principal gate-ways into the college yard.

Governor Everett presided at the collation, (in the absence of Hon. H. G. Otis, who had been expected to be in the chair) and with his usual promptness, courtesy and ability. In offering the first toast, he made a most eloquent and happy address. The company was also addressed by Judge Story, of the supreme court of the United States; Judge Shaw, chief justice of the supreme judicial court of Massachusetts; Rev. Dr. Palfrey, professor in the theological department of the university; Dr. John C. Warren, who is at the head of the medical department, and has so been since the death of his worthy father; Rev. Dr. Kirkland, late president of the university; the late governors Lincoln and Davis; Mr. Legare, of South Carolina; Mr. Armstrong, the mayor of Boston; Hon. Mr. Webster, senator in Congress; Hon. William Sullivan, first vice-president; Hon. Mr. Saltonstall, of Salem; Hon. Loammi Baldwin, of Charlestown; Hon. Peleg Sprague, and Hon. Franklin Dexter, of Boston; Hon. Mr. Kent, of Maine, and Hon. Mr. Plummer, of New Hampshire, who were also vice-presidents of the day. Several other individuals addressed the company, or offered toasts, which we have not been able to name.

Some of the toasts were in Latin, and one was in Greek; and two Latin songs were sung, which were written with much spirit and appropriateness, and were set to the patriotic tune of '*yankee doodle.*' The company did not separate till eight o'clock; but all which we witnessed or heard was in order, sobriety and decorum; mixed however with a good measure of pleasantry and hilarity. Our best wishes are for the continued prosperity and usefulness of this venerable seminary; and we sincerely and devoutly say respecting it, '*Esto perpetua.*'

THE DEAD SEA is described differently by almost every one who visits it. A late traveller says, there is a fœtid smell in some places on its margin, and that the Jordan, when it falls into the sea or lake, is muddy and sluggish. There is a gloomy appearance about the lake; but is not this rather imaginary, and the effect of superstition? Its waters appear heavy, and less agitated by winds than other lakes. In speaking of this, he uses a strong expression; he says, 'it seems to be petrified.' There is no vessel or boat to be seen on it. While he was near it, he experienced a sense of heaviness in his head. The lake is surrounded by mountains; but those on the Arabian side are not so lofty as on the Judean. The shores are completely desolate. The indications of an earthquake or volcanic convulsion are met with in various places.

I am going to write a book on popular ignorance, said a conceited young man to Dr. D——. I know no one, said the Doctor, more competent to prepare such a work.

STATE OF EDUCATION IN BENGAL.

Mr. Adam, sometime a clergyman at Calcutta, a personal friend of the late Rajah Rammohun Roy, and a man of liberal theological views, has lately made a report on the state of education in Bengal, which he had been previously requested to do, by the General Committee of Public Instruction. It contains much information, which will be interesting to all who have a curiosity to learn the intellectual condition of that country. The reviewers speak of it as candid and impartial, and in other respects in very favorable terms. We can only notice some of the most important facts stated, which will show, that at present there is a good deal of attention given to the means of education in that part of the world. And this will serve to increase the patronage of the British government in India in the cause of education. He divides the schools thus: the native elementary schools, and those which are elementary, but supported by the liberality of Europeans; schools of learning by the natives, and higher seminaries or colleges supported by Europeans; and native female schools. The number of the first kind or class are very numerous, and it appears that more is doing and has been done, by the native inhabitants for schools, than was before supposed. It is probable there are 100,000 such schools in Bengal and Behar; which gives a village school for about every 400 persons: and it is believed far the greater part of the youth attend these native elementary schools. The children attend school at five or six years of age, and usually leave at twelve. In the country here mentioned, there are said to be 150,800 villages; almost all of which have a school of this kind. Still, it seems probable that nearly a third of the youth have no schools to attend, or do not attend when they might. The schools supported by Europeans are generally taught by the English. The teachers are not so fully rewarded as they ought to be; and as might be expected, they are not always of the learning and character they should be. The children begin by making single letters with their fingers on a sand board, and then on the floor with a pencil. They then write on the palm-leaf with a reed pen, held with the fist and not with the fingers. After this is continued a year, arithmetic is studied. Orthography makes no part of the education in these (*primary*) schools; and the children have no *moral* education.

The report states, however, that the mode of instruction has lately been improving; and something of the monitorial plan has been introduced. The youth are now classed more justly, which is a great facility in teaching. Overseers of the native schools are now appointed; and those supported by the English are often visited by men anxious for the improvement of the pupils. Efforts are also being made to raise the character of the teachers, both of the natives and the Europeans.

Never despair of the republic.—Even in free governments, where there are means sufficient and inducements most potent for preserving the liberty of the people and the welfare of the state, there are dangers and difficulties to be guarded against and overcome. 'It must be, that offences come.' There will be parties, and party spirit is always liable to adopt some improper means for a professed ultimate good. And it not seldom leads to violence and oppression in the majority. There will be ambitious men, where the prize of fame and power is in their view. And, though there is a laudable and patriotic ambition, this passion is often to be found connected with gross selfishness and utter destitution of principle. And surely then it is dangerous. Power, too, is corrupting; and men in office are apt to tyrannise and oppress. But there are remedies among the people to prevent or cure all these evils. There is a redeeming power in a community like ours, where the people are well-informed, and receive a moral and religious education; where it is for the interest of all to be obedient, peaceable and sober; and where the constitution secures the political rights and privileges of the people, by defining and controlling the power of the rulers, and by making them often and statedly dependent on the people for office and authority. We have good reason then to say, '*Nil desperandum.*'

The *Convention on Temperance* at Saratoga Springs in August was highly respectable, and one of the most numerous which has been held in the United States. The delegates were from all parts of the Union; and some gentlemen attended from Canada; among whom was the Bishop of Quebec. There was not a *perfect* agreement of opinion, on the question of a prohibition of, or a total abstinence from the use of wine; but an excellent spirit prevailed, and a desire manifested to extend the cause of temperance. It was recommended to abstain from wine, as a common drink, and from all liquors which *may* intoxicate; the opinion was expressed, that total abstinence would be attended by very beneficial effects, and serve most effectually to prevent the evils of intemperance.

The public mind has now become greatly enlightened on this important subject. It has been fully shown that distilled spirits are in all cases injurious, and that other liquors, as wine, cider and strong beer are unnecessary to health; and had better, therefore, be given up and discontinued. With all this light and information on the subject, we do not see how any good man, or wise citizen can use ardent spirits, in any degree; and, if he do not wholly abstain from wine and similar liquors, he will be very moderate in the use of them, so that the light of his example may control, restrain and guide others.

Polite over much.—Lord *** is a very polite man; he would not designedly say a rude thing to any one; but in a great desire to be courteous, he sometimes errs. A man once called on him with a note of introduction. His lordship was engaged, three applicants deep. The man saw it, and said, *my* time, my lord, is of no consequence—another morning—or perhaps, your lordship would wish me to wait. His lordship, in his hurry and anxiety, said, 'Oh, dear sir, no, not at all; quite the contrary.'

The term *gas* is the German for *ghost*, and was first applied by Van Helmont and Mayour, who discovered their existence but did not analyze them.

TEXAS.

Much curiosity and interest have been lately manifested respecting the country, or territory of Texas. This is owing, probably, to its contiguity to the United States, and the fact that many of our citizens have lately gone to that country, with a view to make it their permanent settlement and abode. Till recently, and even now indeed, it forms, or is claimed as, a part of Mexico. In the changes and divisions of that extensive country, within a few years, Texas and Cohahuila formed a separate state or government, (the whole number being nineteen;) but it has been one of the confederated states, and therefore not considered entirely independent of the other Mexican States, or the central government. The whole Mexican States extend 27 degrees of latitude, (1600 miles,) and about 39 degrees of longitude, (or 1800 miles.) The territory of Texas, including Cohahuila, is about 12 degrees in longitude, and 10 degrees of latitude.

In 1824, it will be recollected, Iturbide placed himself at the head of the Mexican government; but his reign was short. He was opposed and overthrown by three military chieftains, one of whom was the famous Santa Anna. After many struggles and changes the latter became chief of the country, through the united influence of the church and of the military. The State governments were almost lost in centralism; and this daring individual was the monarch of the whole of Mexico. All submitted to his usurpation but Texas; which resolved to be, or to continue independent. A large number of the residents were from the United States; and the sympathy has been thus excited in favor of the independence and freedom of the country. That Santa Anna is an usurper and a tyrant, may be true; and we cannot but hope the Texans will finally succeed in defending themselves, and in establishing free institutions. Yet it does not appear proper or just for our government to interfere; nor can we think much of the prudence of individual adventurers to that divided and convulsed region. Our republic is already extensive enough for safety, and even for power and glory, in the opinion of intelligent men; and our own territory is sufficient for the competent support of twenty or thirty millions of people, more than now exist in it. It must be a long time before Texas can be chosen for a home by sober and moral New England men.

In describing the territory of Mexico, including Texas, we may add to the above, that a great chain of mountains extends through the centre of the country, interspersed with much table-land. Most of the populous settlements are on these elevated lands. Some of the mountains are very high, upwards of 17,000 feet. On and near the coasts, the country is unhealthy, especially for those who are not natives. The principal rivers in the eastern part of Mexico, or Texas, are the Brassos, Colorado, and Del Norte. There are few good harbors. The sugar-cane, cocoa, indigo, cotton, tobacco, vanilla, wax and cochineal, form great part of the wealth of the country. Corn is also raised readily, and apple trees are cultivated. Buffaloes and wild horses abound in Texas; the latter are called Mustangs by the Spaniards.

The mineral productions are gold, silver, mercury, copper, iron, and lead, in great quantities. The mint of Mexico, up to the beginning of the present century issued two-fifths of the gold and silver of this new continent. The last census of Mexico gave eight millions of inhabitants: four millions of which were Indians, one and an half millions were Creoles, and the rest mixed. There are now no slaves allowed in Mexico; and the Roman Catholic is the prevailing, and in some sense still the established religion.

It has been lately said, that the silk worm is indigenous to Mexico. The silk is of a firm quality, and similar to the *bombyx mori* of China.

The cultivation of the mulberry, and the breeding of the silkworm were early introduced by the Spaniards; but prohibited, or discouraged by old Spain.

The Spaniards settled some parts of Texas 150 years ago. They built several forts, and the few inhabitants, except the natives, were chiefly soldiers. Texas is now a distinct district from Cohahuila, as to its judicial tribunals.

The Red river separates Texas from Arkansas, (in the United States,) on the north, and the Sabine from Louisiana, on the east. The largest town or city is St. Antonia, with 1400 or 1500 inhabitants; Nacogdoches contains about 500. Slavery has been abolished in Mexico; and the law, of course, extends over Texas. In 1827, an attempt was made (in the time of confusion) to form this territory into an entirely independent government; but the rising was soon put down by the Mexicans. The issue of the existing contest may be more favorable. We desire the extension of republican freedom, but not by unjust and violent means.

Vocal Machinery of Birds.—It is difficult to account for so small a creature as a bird making a tone as loud as some animals a thousand times its size; but a recent discovery has shown that, in birds, the lungs have several openings, communicating with corresponding air-bags, or cells, which fill the whole cavity of the body from the neck downwards, and into which the air passes and repasses, in the progress of breathing. This is not all: the bones are hollow, from which air pipes are conveyed to the most solid parts of the body, even into the quills and feathers. The air being rarefied by the heat of their bodies, adds levity. By forcing the air out of the body, they can dart down from the greatest heights with astonishing velocity. No doubt the same machinery forms the basis of their vocal powers, and at once resolves the mystery.—*Gardner's Music of Nature.*

A late Edinburgh (Scotland) paper states, that a favorable and soothing effect has been produced on insane persons by *preaching*. And why should it not be so? A troubled mind is usually the immediate or remote cause of insanity. The doctrines of the gospel, in their purity and simplicity, must have a salutary influence. 'Come unto me, all ye who are heavy-laden, and I will give you rest'

THE PHILOSOPHY OF HISTORY.

History, has been said to be philosophy, teaching by example. There is certainly much truth in the remark. But, that it may be useful and furnish instruction for practical purposes, either in political, moral or even private affairs, it must be read with attention, accompanied by mature reflection. And this must depend, not more on the accuracy and ability of the historian, than on the wisdom and care of the reader. How many read history, as they do a novel or romance; or, at most, as they run over a chronological table, to collect dates merely, and thus load the memory with what is comparatively unimportant. It is like studying geography, for the sake of capitals of countries, or their boundaries, without regard to their institutions, manners, and statistics generally.

If history is read with attention, it cannot fail to profit, even though it be not elegantly or elaborately written. From all accurate historical narrative, one may derive useful instruction and information for some department or station of life. It is important also, to consider the united effects of human wisdom and improvement and of divine revelation; or of religion and civilization. For religion, whether true or false, has had and always must have great influence on the laws and institutions, the civil government, the manners and morals of a people. Idolatry, polytheism, and superstition have produced the most deplorable results in the world. Their fruit has been heinous crime, licentiousness, cruelty, and even *inhumanity*, if it be not a contradiction so to speak. The *natural* goodness and kindness, and love of truth and virtue, of mankind, have been destroyed or sadly corrupted, so as almost totally to change our nature, from what it appears capable of under the benign influence of Christianity and the favorable tendency of civilization and law. Certainly, *unnatural* vices and crimes were committed in heathen countries, as history teaches, and the inspired writers expressly attest. The chief origin or cause of all this sin and evil, no doubt was ignorance; and therefore we may lament, while we condemn the sad state of the idolatrous world. St. Paul says, 'the times of this ignorance God winked at.'

This should teach us how much we owe to revelation, as well in a political or social, and worldly view, as in our individual character and virtue, and the happy state of families. This reflection is important, both to enkindle our gratitude to heaven, and to invigorate our care in maintaining the means of useful knowledge and the Christian religion. For, if Christianity has yet failed to regenerate the world, and to improve society, as we might hope and expect, it has done much in this respect; and wayward circumstances in the world, and the corrupt and selfish passions of men have been the cause of the retardation.

Even the Mosaic system, of which we, under the more liberal light of the gospel, are apt to complain, or to think lightly, served a useful moral purpose, in teaching the doctrine of the divine unity, and keeping one nation from the prevailing errors and corruptions of idolatry. The numerous moral precepts mixed with the rites and ceremonies show what was the chief design of that system; and what the influence even of some religious truths in favor of virtue. With all their errors and follies, the Jews were far better than their heathen neighbors. It is also to be considered, that the revelations and promises and predictions given to the ancient Jews, by Moses and the prophets in succeeding times, are in some sort the foundation of our far superior religion, which gives so great knowledge, and assures of such rich grace and favor to mankind. The reveal er and teachers of Christianity were Jews; and one argument in favor of their claims to be inspired, or sent by God, was that they appealed to the former divine system, and supported their theory and their pretensions by the predictions and promises of the original theology of the nation, beginning with Abraham and other holy men, even to the date of the present race of man. Whoever duly reflects on these facts, must have a strong argument for adopting the Christian system. The common history of the world also, either directly confirms, (as it does in some cases,) or indirectly furnishes facts and dates, as to the state of ancient nations, which afford evidences in its favor. We thus have proof that the Jews were a 'peculiar people,' and their religious faith and worship were known to other nations. So of Christianity, the history of the Roman empire, at that epoch, serves to confirm the outlines of the history of the Christian faith and church; though much which was done in the Christian societies are not related, nor were their opinions and virtues fully known to the proud and conceited heathen philosophers.

The extensive use of the Greek language, which had attained great perfection two thousand years ago, was almost the vernacular tongue of all the philosophers and learned men in the world, (with the exception of those in the distant eastern parts of Asia, whatever their knowledge might be.) The Jewish sacred writings were translated into this popular language two hundred and eighty years before our Saviour's time; and had circulated in many places out of Judea; either through the Jews themselves, who had been dispersed into almost all parts of the extended Roman empire; or by philosophers of other nations, who had heard of them, and had the curiosity to examine them. This circulation of the Jewish history and writings, must have been an important help to the spread of the gospel by the apostles of Christ. And, in this connexion, we should notice and admire the extension of Greek literature, by means of Alexander and his successors, over so great portions of the world. For, though there was much error in the philosophy of the Greeks, as well as in the systems of other nations, and 'their boasted wisdom was but foolishness,' compared to the Christian religion, yet human learning is always eventually useful, in giving intellectual freedom, in exciting inquiry, and expanding the mind. The extension of the Greek language served as an indirect help to disseminate a knowledge of our holy religion. This language soon became almost identified with Christianity; and while the more western parts of the old continent favored Greek literature, the inhabitants obtained a knowledge of the gospel. Thus human learning

and philosophy aided the progress of Christian truth; and Christianity, in its turn, gave new motives for inquiry to inquisitive men.

By a careful perusal of the history of those times, we shall soon perceive, that the Christian religion had a mighty influence in improving the character of man and the condition of society. We must regret, indeed, that sects and divisions soon sprung up in the bosom of the church. Disputes arose on speculative and unimportant subjects, and the primitive faith soon became perverted or corrupted; still, the spirit continued, in some degree, to restrain, to reform and improve mankind. The belief in one God and in his inspired Messenger, his holy and glorious Son, and in a future state of retribution, and the inculcation of the pure moral precepts of the gospel, could not fail to produce salutary results in society, as well as on private character and conduct. Soon, alas, gross errors were introduced, and in six or eight hundred years, the nominal Christian world was little better than the pagan. That the errors and corruptions were deep and extensive, cannot be denied; but, despite all these, there was a salutary influence still in operation to regulate human passions, and give consolation to suffering humanity. No apology is to be offered for it; and why God even permitted it, is not for us to conjecture, except that we are assured all things are under the control of his wise and good providence. A brighter and better day has arisen. The progress of truth and reformation is slow, but it is sure; and we cherish the hope and belief, that less error and oppression, and more truth and virtue are to be the lot of succeeding ages.

The history of our own country, especially of New England, cannot be read with much improvement or profit, nor, indeed, with a proper understanding, unless we are well acquainted with the character and principles and views of our own venerated ancestors, the first and early inhabitants. To learn the origin of our excellent institutions, civil, literary and religious, their moral design and salutary results, we ought to study the character of the puritan fathers, who were devoted to the cause of religious and civil liberty. A recollection of their views and purposes, of their sufferings and persecutions in England, before they settled here, of their deep and strong love of religion, their sense of the importance of good learning, and of their consequent attachment to civil liberty, is absolutely necessary to understand the early and present history of our country; and to enable us to trace events in society to their legitimate causes. Mere dates, or a naked relation of facts are not sufficient; a knowledge of the objects in view, by settling in this new world, and their opinions and principles, must also be understood, in order to form a correct and just estimate of the characters of men and of society It is possible, indeed, to write on the subject, and obtrude our own opinions, and extend our own remarks so far, as almost to obscure the narrative. Some reflections to accompany the narration, are useful and proper. But this may be disproportionate to the design of history, which is to state facts and relate events, and give a fair account of the opinions and characters of those, who were the chief actors, without indulging largely in speculation, and swelling the work by our own inferences and reasonings.

In giving the history of the war of the revolution, we want to know the views and opinions of the leaders in that great and glorious event. The relation merely of battles, and the expenses, though necessary, is not all that is important. Who ever would justly understand the true causes and character of the revolution should carefully read the correspondence of our leading men of that period, with the British ministry, the royal governors; and the proceedings, the resolutions and speeches of our patriots in the General Court and in town meetings. The history of 1765–1775, is as important as that of 1775–1783. And indeed, the previous and frequent disputes which our representatives had with the rulers of the parent country, from the first settlement of Massachusetts, are highly important to be known and studied. And we cannot conclude these few and desultory remarks, without recommending the study of the history of this and other states, which now form our great federal republic.

WOMEN OF INDIA.

In India, the women are charged with being the authors of all the evil and mischief in society. They are accused of deceit, intrigue, envy, malignity and revenge. If this be their true character, it is natural to inquire what is the cause? Is it not owing to their education? Or rather to a want of a proper and judicious education, such as females receive in Christian countries? In heathen nations, the women, we know, are treated with severity as inferior to man; and no care is taken to cultivate and enlighten their minds. It is not strange, that in such a state of degradation, they should be inclined to evil and be often plotting mischief, or given to revengeful passions. The only means of giving dignity and virtue and amiableness to woman, is to educate them in the Christian religion.

Organic Remains.—It is stated in a late paper published at Northampton in Massachusetts, that some organic remains have been discovered, on the banks of the Connecticut river and about twenty miles above Northampton. They were found imbedded in the slate stone. Among them, are numerous fishes petrified, and in perfect form and shape, even to fins and scales. Facts of this kind are frequently noticed in recent times, because geology and mineralogy are more studied, and are important to be recorded. For it is from facts, that the true theory of the globe, or rather of its formation and revolutions and changes, are to be established. The latest discoveries of this kind go to confirm the truth of the cosmogony of Moses, the inspired lawgiver of the Hebrew nation; and afford an answer to many skeptics of former times, who have pretended, that philosophy and science furnished arguments unfavorable to the Mosaic history. Revelation need not fear inquiry; those are its mistaken advocates who raise a cry against scientific investigations, or who fear to search the volume of nature in all its wonderful pages. God is true, and his word and works, if understood, do not militate with each other.

BEET ROOT SUGAR.

[Extracts from a manual of the art of making sugar from beets, by M. M. Blachette and Zoega, now in the press of Messrs. Marsh, Capen and Lyon, Boston.]

Margraff, a celebrated Prussian chemist of the last century, was led by the sugary savor of the radish beet, and by the chrystalline appearance of its interior, to suspect the existence of a substance in it analogous to sugar.

Having cut the beets in slices, he dried them carefully and reduced them to powder. Over eight ounces thus pulverized he poured six ounces of alcohol highly rectified, and exposed the mixture over a gentle fire to a sand bath. As soon as the liquid came to a boiling point, he took it off the fire, poured it into a flagon, which he corked and set aside. After some weeks he perceived that chrystals were formed, which presented all the physical and chemical characters of chrystals of the sugar from canes.

Having submitted to a like treatment the root of the white beet, of shirret, and of some other plants, they all furnished sugar, but in different proportions. The radish beet gave the most.

The radish beet is a plant of the tribe beet, of the family atriplices, species of biennial plants, of the height of one to four feet, branching, and with furrowed stalks. They have leaves single and alternate, the flowers having no corolla, hardly visible, collected in small groups, and forming, toward the summit of the stalk and the branches, long leafy ears. Its generic character is to have a calyx with five folioles bearing five stamens, and an ovary furnished with two styles and two stigmas half buried in the substance of the calyx, and becoming a kidney-shaped seed, in which the calyx takes the place of the capsula.

The number of known varieties exceeds twenty. The following is given by M. Payen in a note, from documents furnished him by M. Vilmorin Andrieux.

First variety. Disette, (beta silvestris) country or common radish beet, white inside and outside, petioles white.

Sub variety. Rose colored outside, and presenting, (if cut perpendicularly to its axis) concentric circles, rose colored and white.

Second variety. Silesian white radish beet, (beta alba) rounded, pear-shaped, petioles white, pulp white and of strong texture.

This is the variety recommended by Achard as the best and most productive.

Sub variety. Petioles veined with rose color,—with concentric circles rose colored, and white in the interior of the root.

Third variety. White radish beet, long and spindle-shaped, with white pulp. It resembles the root of succory in its length and form. This is known in some parts of France under the name of corne de boeuf, ox horn. It is not cultivated, because it requires a very deep soil. It appears, beside, that it yields very little sugar.

Fourth variety. Red radish beet, (rubra romana) oblong, well shaped, petioles of the leaves red. This, as well as its sub varieties is not much cultivated, except for the table.

First sub variety. Yellow, petioles of the leaves yellow.

Second sub variety. Small, red, spindle-shaped, petioles and pulp red, very deep and mixed with yellow.

Third sub variety. Small, red, round like a turnip, early, (from twelve to fifteen days) is cultivated in gardens. It is used to dress and eat for a salad.

Fifth variety. Yellow radish beet, (lutea major) pear-shaped, elongated, of a middling size, pulp yellow, petioles of the leaves greenish yellow.

First sub variety. Red, with red petioles. It is always mixed with the preceding; although the seed when sown comes up only yellow. Of four kernels collected in one seed, it comes up sometimes three yellow and one red.

Second sub variety. Small, yellow, spindle-shaped, like the carrot, with yellow petioles. It is not cultivated.

Third sub variety. Yellow externally and white internally, pear-shaped, rounded, petioles white.

M. Dubrunfaut adds to this enumeration, a sub variety of the second variety. It is rose colored, pear-shaped, with white pulp, sometimes slightly rose colored, petiole white.

MANUFACTURE OF THE SUGAR.

Rasping.—The mode first thought of to facilitate the best division of the beet was to boil it. This also was the same M. Achard had invented, who, after having boiled the beets in vapor, and reduced them to paste, tried to express them. But the minute division of the pulp, which in this state was nothing but a paste, presented an inconvenience. It was then impossible to separate the juice from the parenchyme, this passing through the bags in which the paste was enclosed, to be submitted to the press.

The apparatus, which in the factories of beet sugar and in those of the facculæ of potatoes bear the name of rasps, are composed of a plane surface, cylindrical or conical, according to the particular disposition of the apparatus, armed with rows of teeth set perpendicularly. This surface revolving on an axis receives from a moving power a very rapid rotary motion, by which means it tears the substances subjected to its action. In some cylindrical machines the swiftness is so great that it makes eight hundred revolutions in a minute.

The form of these rasps and disposition of the blades is very various. The teeth are sometimes placed on the inner, sometimes on the outer surface. When the surface is cylindrical we give it a horizontal position, when its form is conical the axis of the cone is vertical.

The great object to be attained in the rasps is to make as minute a division of the beets as possible, for the more complete is the division the more juice is obtained, and consequently more sugar in a given quantity of roots. But it is also necessary that this operation be executed in a short time, and by the least waste of power.

Expression of the sugar.—The beets, reduced to a pulp by the action of the rasp, must be then pressed to separate the liquid part from the pulp or vegetable fibre. To this end they are put under a press. The object in submitting the pulp of the beets to the press, being to extract the greatest

possible quantity of the juices they contain, it is necessary to subject them to considerable power of pressure.

Various kinds of presses have been used for this purpose. Strong screw presses similar to wine presses have been very generally used in France. And in some of the factories in that country a double screw press of M. Isnard.*

Of all the methods to obtain a strong pressure, the most effectual is doubtless the hydraulic press, which is founded on the hydrostatic principle, that a pressure exerted on a fluid is transmitted through the whole mass with a force equal to that on the surface.

The pulp in order to be passed through the press is enclosed in bags of strong cloth. A workman, after having put the pulp in the bag, oears it on a hurdle of osiers placed in a tray. Then with his hands he spreads it in a bed in the inside of the bag, the end of which, open below, he fills with it. He places a hurdle on it, and above a second bag, which he disposes like the preceding. When he has thus formed a pile of ten bags, another workman raises it, and places it on the plate of the press. When the press has received its quota of twenty or thirty bags, varying according to its height, it is put in play. The tray on which the bags are arranged is designed to receive the juice, that flows from the pulp while spread in a bed on the bags.

Separation of the sediment.—From the reservoirs where the juice has been received it passes into a cauldron, to undergo the separation of the sediment.

The amount of work to be done daily in a sugar factory, being regulated by that which the rasps can accomplish, the dimensions to be given to the cauldrons are to be calculated by the proportion of pulp they furnish, so that the different operations may follow immediately, and the juice may not remain in the troughs. The cauldrons are of copper, of a cylindrical form, with a flat bottom: their diameter should be greater than their depth.

The furnaces used in a sugar factory have nothing particular in their construction. The only condition to be fulfilled is to give them the form most suitable to economize the greatest portion of the heat produced.

The juice running from the press is received into large earthen vessels. There is added to it (according to the method of Achard) sulphuric acid, in proportion of about 1½ dwt. to each pint of juice. Thus acidified, the juice stands twenty-four hours. At the end of this time the surface is clear and limpid, but the bottom thickened by a deposit of albuminous matter coagulated by the acid and by some other impurities. The whole is thrown into a cauldron, at the bottom of which is spread a bed of chalk. The juice is stirred up with the chalk, that the combination may be made thoroughly. The sulphate of lime which results from this mixture is precipitated, and forms the chief part of a deposit at the bottom of the cauldron.

This first operation finished, the fire is lighted under the cauldron, the liquid heated to the temperature of 30°, which is indicated by a thermometer plunged in the cauldron. Cream is added in the proportion from ten to fourteen pints for one thousand of juice. The mass is then well stirred and the cauldron covered. When the thermometer marks 79°, the fire is extinguished, and the liquid suffered to fall to the temperature of 50° to 60°: the cauldron being then uncovered, the scum which is collected on the surface, and floats on the liquid in a black crust, is taken off with a skimmer.

Third operation.—The alterations that the lime has made the sugar to undergo when it is used in excess, has induced the manufacturers to seek the means to protect it from losses caused by its presence in the juice after the clarification. It was conceived it might be neutralized by an acid. And they chose sulphuric acid because of its cheapness, and because it forms with lime a salt easily soluble.

After having treated the juice as above described, by putting lime into the defecating cauldron, the clear liquid is drawn off in the evaporating cauldrons. Into the liquid which is then more or less alkaline, according to the quantity of lime that has been used, is poured the sulphuric acid, diluted with water till the lime is nearly neutralized, taking care, however, that the liquid preserves a little of its alkaline quality, an excess of acid being still more injurious to it than an excess of lime.

The *refraction* and *reflection of light, by air*, produce a remarkable phenomenon. While the rays of light move in a medium of uniform density and composition, they are straight, but when they pass obliquely into a medium of a different density, they are bent, or refracted toward the denser medium. The rays of light, therefore, while coming through the atmosphere from the heavenly bodies, are always entering a denser and denser stratum of air, and are consequently bent down towards the earth. The different rays suffer different degrees of refraction, according to their color. That of red is the least, then orange, yellow, green, light blue, indigo and violet. All solid bodies have the property of reflecting light; and it is probable that all bodies whatever reflect light, in a greater or less degree. The clouds and air possess this property. The most refrangible rays are also the most easily reflected. When the sky shines with a fine azure hue, it is by means of the more reflexible rays, which are first reflected from the earth, and then returned by the atmosphere. The refraction and reflection of light enable it to diffuse itself over the atmosphere, illuminating our hemisphere for some time after the sun has gone down, and before it rises in the morning; thus producing the evening and morning twilight. The rainbow is a circular image of the sun, variously colored and produced thus:—The solar rays, by entering the drops of falling rain, are refracted to their farther surfaces; and thence, by one or more reflections, transmitted to the eye. But, on escaping from the drop, they undergo a second refraction; by which the rays are separated into their different colors; and in this state exhibited to an eye properly placed to receive them. The rainbow is seen only when rain is falling; and the sun and bow are always on opposite sides of the observer.—*Encyclopædia of Geography.*

* The same gentleman, we believe now residing in Boston who has made some communications to the public on the subject of beet sugar.

RICE.

This very useful plant or grain is found in many countries: in India and China, in Italy, in the south parts of North America, &c. It is often raised on low grounds, which are unhealthy; and is cultivated, therefore, by Africans, who can better endure the warm and low countries of the South. No grain is more used than rice, in many parts of the world; and it is a wholesome food, especially if properly cooked. And yet this is not attended to as it ought. It has been lately found to be a chief ingredient in making a cheap and wholesome bread.

Rice Flour is now much used both for bread and puddings, and is an excellent substitute for arrow root and much cheaper. It is also said to be superior to ground rice as heretofore often used. The following receipt has been published. A quart of rice flour (to be had of Richards & Co. New York) wet with warm water; then add boiling water and a spoonful of salt, till a pretty thick pap is made. Boil it two or three minutes; add a pint of milk, or water. Let it cool, and add half a pint of yeast, and knead in one-third the wheat flour required to make a dough for bread. Let it rise, and then add the rest of the flour to make a stiff dough; put it in pans and let it rise in a warm place, and bake it. Bake it thinner than muffins.

INSTINCT OF DOGS.

A species of the *canine* kind has been lately found in the interior of Mexico, and the table-land of Santa Fe, which have a peculiar instinct, not known to exist in any other species of this animal. They are now and have been sometime exclusively used in hunting the deer. Their attack is made on the deer, by seizing him by the belly, and throwing him to the ground by a sudden effort, while the body of the deer is resting on the fore-legs. It is said these dogs never attack the deer from before while running, but makes the assault on his flank, even though he has an opportunity to assail him in front. Other hunting dogs, whether of America or Europe are said to be destitute of this instinct, or never to have discovered it: and are often killed or kept at bay by a fierce deer who turns on them.

The instinct of animals is a wonderful proof of the wisdom and power of the great Creator. And it is important to study their peculiar natures and properties, with a view to acquaint ourselves with the wonders in the natural world, as well as to derive advantages in the concerns and pursuits of life.

Wine appears to have been in common use among the Hebrews, from an early period; sometimes to excess, but the moderate use of it was not condemned. It was entirely prohibited a long time, by the Romans, as appears from their early history; and at a later period, was not allowed to women. The juice of the grape, before fermentation takes place, is sweet and of a very saccharine taste; especially that pressed from grapes in warm climates. The wine produced by fermentation differs essentially from the juice of the grape before that process begins: and when distilled it produces genuine *alcohol*. The manufacturer of wine gives to it an artificial taste and color to please his customers. There are various ways of doing this, some of which are a secret; but generally, a portion of *brandy* is mixed with it.

Mr. Arago, in one of his late lectures on the theory of the central heat of the earth, related the following. The municipality of Paris ordered an artesian well to be pierced; but the men, after getting the depth of nine hundred feet without finding water, came to a bed of chalk, very thick, which discouraged them; but some men of science persuaded them to continue their labors. And by observations made by means of a thermometer, no doubt remains as to the fact—that the temperature of the earth rises regularly towards the centre; so that at the tenth degree from the surface, all matter must be in a state of fusion. At the point, to which the perforation, in this case, was made, Mr. Arago supposes a spring of water will raise a sufficient degree of heat, to warm public buildings, supply baths, &c.

'Harmless mirth is the best cordial against the consumption of the spirits: wherefore jesting is not unlawful if it trespasseth not in quantity, quality, or season.

It is good to make a jest, but not to make a trade of jesting. The Earl of Leicester, knowing that Queen Elizabeth was much delighted to see a gentleman dance well, brought the master of a dancing school to dance before her: "Pish," said the Queen, "it is his profession, I will not see him." She liked it not where it was a master quality, but when it attended on other perfections. The same may we say of jesting.

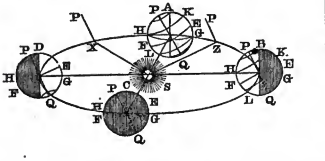
Jest not with the two-edged sword of God's word. Will nothing please thee to wash thy hands in, but the font? or to drink healths in but the church chalice? And know the whole art is learnt at the first admission, and profane jests will come without calling. If in the troublesome days of King Edward the Fourth, a citizen in Cheapside was executed as a traitor, for saying he would make his son heir to the crown, though he only meant his own house, having a crown for the sign, far more dangerous it is to wanton with the majesty of God.'

It was said of the celebrated Council of Trent, (convened in 1545, to form a creed for christendom) 'that for many of its canons and tenets the christian world was indebted rather to Aristotle, than to Christ or to his apostles.

TEMPERATURE OF THE EARTH.

In the annual motion of the earth, its axis preserves, at all times, the same direction as if the orbitual movement had no existence; and is carried round parallel to itself, and pointing always to the same vanishing point in the sphere of the fixed stars. This it is which gives rise to the variety of seasons, as we shall now explain. In so doing, we shall neglect (for a reason which will be presently explained) the ellipticity of the orbit, and suppose it a circle, with the sun in the centre.

Let, then, S represent the sun, and A, B, C, D, four positions of the earth in its orbit, 90° apart, viz. A that which it has on the 21st of March, or at



the time of the vernal equinox; B that of the 21st of June, or the summer solstice; C that of the 21st of September, or the autumnal equinox; and D that of the 21st of December, or the winter solstice. In each of these positions let PQ represent the axis of the earth, about which its diurnal rotation is performed, without interfering with its annual motion in its orbit. Then, since the sun can only enlighten one half of the surface at once, viz. that turned towards it, the shaded portions of the globe in its several positions will represent the dark, and the bright the enlightened halves of the earth's surface in these positions. Now, first, in the position A, the sun is vertically over the intersection of the equinoctial FE and the ecliptic HG. It is, therefore, in the equinox; and in this position the poles P, Q, both fall on the extreme confines of the enlightened side. In this position, therefore, it is day over half the northern and half the southern hemisphere at once; and as the earth revolves on its axis, every point of its surface describes half its diurnal course in light, and half in darkness; in other words, the duration of day and night is here equal over the whole globe: hence the term *equinox*. The same holds good at the autumnal equinox on the position C.

B is the position of the earth at the time of the *northern, summer* solstice. Here the north pole P, and a considerable portion of the earth's surface in its neighborhood, as far as B, are situated *within* the enlightened half. As the earth turns on its axis in this position, therefore, the whole of that part remains constantly enlightened; therefore, at this point of its orbit, or at this season of the year, it is continual day at the north pole, and in all that region of the earth which encircles this pole as far as B; that is, to the distance of 23° 28′ from the pole, or within what is called, in geography, the *arctic circle*. On the other hand, the opposite or south pole Q, with all the region comprised within the *antarctic circle*, as far as 23° 28′ from the south pole, are immersed at this season in darkness, during the entire diurnal rotation, so that it is here continual night.

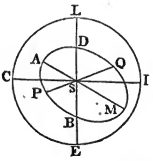
With regard to that portion of the surface comprehended between the arctic and antarctic circles, it is no less evident that the nearer any point is to the north pole, the larger will be the portion of its diurnal course comprised within the bright, and the smaller within the dark hemisphere; that is to say, the longer will be its day, and the shorter its night. Every station north of the equator will have a day of more and a night of less than twelve hour's duration, and *vice versa*. All these phenomena are exactly inverted when the earth comes to the opposite point D of its orbit.

Now, the temperature of any part of the earth's surface depends mainly, if not entirely, on its exposure to the sun's rays. Whenever the sun is above the horizon of any place, that place is receiving heat; when below, parting with it, by the process called radiation; and the whole quantities received and parted with in the year must balance each other at every station, or the equilibrium of temperature would not be supported. Whenever, then, the sun remains more than twelve hours above the horizon of any place, and less beneath, the general temperature of that place will be above the average; when the reverse, below. As the earth, then, moves from A to B, the days growing longer, and the nights shorter in the northern hemisphere, the temperature of every part of that hemisphere increases, and we pass from spring to summer, while at the same time the reverse obtains in the southern hemisphere. As the earth passes from B to C, the days and nights again approach to equality; the excess of temperature in the northern hemisphere above the mean state grows less, as well as its defect in the southern; and at the autumnal equinox, C, the mean state is once more attained. From thence to D, and finally round again to A, all the same phenomena, it is obvious, must again occur, but reversed; it being now winter in the northern, and summer in the southern, hemisphere.

All this is exactly consonant to observed fact. The continual day within the polar circles in summer, and night in winter, the general increase of temperature and length of day as the sun approaches the elevated pole, and the reversal of the seasons in the northern and southern hemispheres, are all facts too well known to require further comment. The positions A, C, of the earth correspond, as we have said, to the equinoxes; those at B, D to the *solstices*. This term must be explained. If, at any point, X, of the orbit, we draw XP the earth's axis, and XS to the sun, it is evident that the angle PXS will be the sun's *polar distance*. Now, this angle is at its greatest in the position D, and at its least at B. At these points the sun ceases to approach to or to recede from the pole, and hence the name *solstice*.

The oval form of the earth's orbit has but a very trifling share in producing the variation of temperature corresponding to the difference of seasons. This assertion may at first sight seem incompatible with what we know of the laws of the communication of heat from a luminary placed at a variable

distance. Heat, like light, being equally dispersed from the sun in all directions, and being spread over the surface of a sphere continually enlarging as we recede from the centre, must of course diminish in intensity according to the inverse proportion of the surface of the sphere over which it is spread; that is, in the inverse proportion of the square of the distance. But as this is also the proportion in which the *angular velocity* of the earth about the sun varies, the *momentary supply of heat* received by the earth from the sun varies in the exact proportion of the angular velocity, that is, of the *momentary increase of longitude;* and from this it follows, that equal amounts of heat are received from the sun in passing over equal angles round it, in whatever part of the ellipse those angles may be situated. Let, then, S represent the sun; AQMP the earth's



orbit; A its nearest point to the sun, or, as it is called, the *perihelion* of its orbit; M the farthest, or the *aphelion;* and therefore ASM the axis of the ellipse. Now, suppose the orbit divided into two portions by a straight line PSQ drawn through the sun, and any how situated as to direction; then, if we suppose the earth to circulate in the direction PAQMP, it will have passed over 180° of longitude in moving from P to Q, and as many in moving from Q to P. It appears, therefore, from what has been shown, that the supplies of heat received from the sun will be equal in the two portions, in whatever direction the line PSQ be drawn. They will, indeed, be described in unequal times; that in which the perihelion A lies in a shorter, and the other in a longer, in proportion to their unequal area; but the greater proximity of the sun in the smaller portion compensates exactly for its more rapid description, and thus an equilibrium of heat is, as it were, maintained. Were it not for this, the eccentricity of the orbit would materially influence the transition of seasons. The fluctuation of distance amounts to nearly one-thirtieth of its mean quantity, and consequently the fluctuation in the sun's direct heating power to double this, or one-fifteenth of the whole. Now, the perihelion of the orbit is situated nearly at the place of the northern winter solstice; so that, were it not for the compensation we have just described, the effect would be to exaggerate the difference of summer and winter in the southern hemisphere, and to moderate it in the northern; thus producing a more violent alternation of climate in the one hemisphere, and an approach to perpetual spring in the other. As it is, however, no such inequality subsists, but an equal and impartial distribution of heat and light is accorded to [illegible].

MOUNTAINS AND SEAS IN THE MOON.

When the moon is from eight to nine days old, a mountainous ridge may be seen with a telescope of 120 magnifying power, as clearly as the Appenines in Italy, or the Alleghanies in the United States of America, on a good map. Dark shadows are perceived on the eastern side, and ten or twelve peaks may be seen. This appears to be the only ridge on the moon's surface; the other mountains stand separately. The upper part of the ridge is between two dark spots, (supposed to be seas) known to many as the right and left eyes of the moon; and the northern mountain of the ridge is about half way down the eastern side of the latter.

The supposed sea, called *mare Serenitates*, is usually represented with an irregular circular line of faint light within its boundary. This sea is believed to be much indented by bays and straits.

The *mare Crisium* is a dark spot seen with the naked eye, near the edge of the moon, in the north west part of its face or disc; it may be seen in profile when the moon is two and a half or three days old. Near its north east corner are several large mountains, as conjectured.. The illuminated detached peaks on the southern margin of the unenlightened portion of the moon's disc, may be seen when the moon is nearly four days old; but this depends in some measure on the moon's libration.

Extract from the Chronicles of a Jew, named Rabbi Joseph Ben Joshua Ben Meir.

'And it came to pass when Pope Julius began to build the great high place (St. Peter's) in Rome, that he sent friars into all the districts of the *uncircumcised;* and gave them power to loose and to bind, and to deliver souls from hell. And they went forth and cried with a loud voice, "take off your ear-rings, and bring them for the building of the high place; and thus shall ye save your souls from hell and purgatory." And when Julius was dead, the Pope Leo sent forth also; and they were bold and proud, and gathered great treasures, through the fears and sins of the uncircumcised. And the Germans said, "How can ye do this? How can the Pope do this?" The friars replied, "Ye will be cursed, if ye do not believe; for there is no faith in you; and ye shall be an abhorrence to all flesh!" And there was one Martin Luther, a skilful and wise man, who said to them; "Are ye not ashamed, when ye speak such foolish and corrupt things?" And the friars could give no answer; and they behaved with madness, and cursed him. And the wrath of Luther was kindled; and he opened his mouth and preached against the Pope; though he still honored Jesus; and many gathered unto him. And he made them laws and statutes, and spake revolt against the Pope and his agents. Then many went not after the traditions and rules of the church of Rome; and their laws are different unto this day.'

Age.—A quality or attribute which is regarded as conferring respect, but which most endeavor to conceal.

An *anomaly.*—A person of *sincerity.*

BATTLE OF BUNKER HILL.

[Extract from Mr. Everett's Oration on the 17th of June, at Charlestown, the anniversary of the battle of Bunker Hill.]

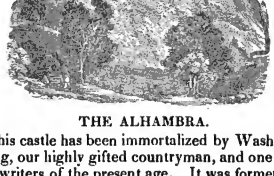
The battle began about three o'clock, and continued between two and three hours. The number of troops engaged in defence of the fort and ground was about 3,000, that of the British which attacked our lines estimated at 4,000. The loss of Americans killed and taken was 115, and 300 were wounded. The enemy had from 1,500 to 1,600 killed, or wounded, and eighty of them were officers. We give a part of the address to the survivors and actors of that memorable scene, who were present; there were eight, and several others who had been engaged in the war of the revolution.

'Survivors of the battle! welcome to the scene of your toils and sacrifices in the cause of your country! Venerable men! This day sixty-one years ago, you came up here in the freshness of youth's early morning to risk your lives in defence of that country's rights. In her auspicious name I bid you welcome to this consecrated spot. Accept our thanks for your attendance! Accept our warm congratulations upon the happy circumstances under which the celebration is held! Rejoice with us that your early labors were not lost:—that the blood which you poured out like water has not been shed in vain:—that while others have been taken away, you have been spared in the goodness of Providence to witness, to enjoy yourselves the blessed fruits of your devotion to liberty! Behold them, venerable friends! in all that surrounds you,—in every proof of individual or national welfare, that greets your eyes as you survey this brilliant scene! This fair and smiling town;—these numerous bridges, channels of wealth, free at length as air to the footsteps of industry;—these cultivated fields that stretch in every direction as far as the eye can reach around us;—the ships that are waiting at the neighboring wharves, impatient to spread their snowy canvass upon every ocean;—the manufactories that are rising, as if by enchantment, in all our villages;—that navy-yard with its noble dock, where the glorious banner of the union,—not yet unfurled, when you, venerable warriors! came up here to battle under the good old provincial standard of Massachusetts Bay,—now displays in pride and beauty its star-spangled folds to the summer air;—that celebrated city, the boast and honor of New England, renowned throughout the world as a strong-hold of learning, religion and liberty, now bursting its bounds with exuberant prosperity and embracing in its constantly expanding grasp the whole vicinity;—above all, this crowd of happy faces,—this dense multitude of prosperous, educated, enlightened, virtuous, pious freemen,—of women worthy to share their happiness, honored mothers, tender wives, lovely daughters,—there was little comparatively of all this, venerable friends! when you came up here sixty-one years ago to the help of the Lord against the mighty. A little one has become a thousand. To you and to your generous and gallant companions in arms and in council we owe this glorious change. What do I say? We owe it to you that the light of day greets us cheerfully,—that the air of heaven breathes kindly upon us,—that sleep refreshes us,—that the fruits of the earth nourish and gladden us: for when did the elements of nature perform their work benignantly upon the slave?—Fortunate men! you have lived to witness the good that you have done. Welcome then, friends and benefactors! to the scene of your patriotic efforts,—of your trial, your glory and now your high reward! Accept once more our warm congratulations! Accept our heartfelt thanks!

'But the sphere of your services has not been limited by the bounds of this flourishing neighborhood,—or even this large and prosperous commonwealth. Look farther, venerable friends! Behold this vast, confederate Republic, the mighty mother of states and empires, stretching her boundless domain from the eastern to the western ocean through the whole temperate zone! Behold that range of inland seas alive with commerce,—those magnificent rivers bearing on their bosom to every quarter of the globe, the richest products of skill and industry,—the numerous cities, abodes of science, art and wealth, that shine like gems upon our far-extended coast,—the fair plantations that enrich and adorn the interior,—the schools, the colleges, the churches, diffusing knowledge, virtue and piety among the people!—Turn your eyes to the seat of the General Government!—Observe there a new form of political society, combining the advantages of small communities with the security of large ones,—uniting in happiest bonds the sister forms of liberty and law,—establishing among a brotherhood of sovereign states, extending over a vast continent, the grand and hitherto vainly desired consummation of perpetual peace! Behold this system heretofore regarded as the idle, impracticable dream of wild enthusiasm, working out its beauteous miracles in quiet majesty amid the storms that convulse the political world in all other quarters; and already sanctioned and strengthened by the experience of more than half a century! Lay open the volume of your country's history! Behold there the record of a series of events unparalleled, unapproached in the annals of the world!—a family of new nations springing as it were from the soil under the quickening sunshine of justice and liberty, and under the same impulse mounting with giant steps the heights of power, wealth, and social improvement!—Read over the long list of the illustrious names that crowd the pages of that precious book,— (your Hancocks, your Adamses, your Franklins, your Jeffersons, your Madisons, your Jacksons, with their noble fellow-patriots and heroes, and above them all the *unique* Washington!) Hear Great Britain bearing public testimony through the mouths of her most enlightened sons to the "astonishing superiority" of your statesmen in council,—sealing with the blood of her ablest generals on the battle-field the overwhelming power of your "military chieftains":—and, harder still, striking for the first time that "meteor flag" that had braved the battle and the breeze a thousand years to the banner of your "fir-built frigates!" To you, venerable friends and benefactors! to you and your contemporaries of the revolutionary age, we owe this splendid spectacle of national justice, greatness and glory. Without your labors, sufferings, sacrifices, successes, what would this country have been? An insignificant British possession, or

a remote, unexplored continent; a half-starved colony, kept on purpose just large enough to afford its contribution to the bloated greatness of an overgrown metropolitan state, and not too large to endanger its dependence,—a Jamaica,—a Botany Bay. You gave us independence and liberty,—the conditions of our greatness, our glory, our existence. Splendid boon! How shall we reward such service? What thanks, what acknowledgements, what words of fondest love and warmest welcome can give any adequate expression to the obligations we are under and the feelings with which we are inspired?

'But even these unexampled results do not comprehend the whole of the services which you rendered to the world on this eventful day. As friends of liberty, of human happiness, we limit our regards to no single country, not even to our own. We extend them through the world. Wherever there are men, living, laboring, suffering, enjoying,—there are our brothers. Look then still further abroad, honored friends and patriots! Behold in distant countries,—in other quarters of the globe, the influence of your example and achievements in stimulating the progress of social improvement! Behold the mighty spirit of reform striding like a giant through the civilized world and trampling down established abuses at every step! That mighty spirit, venerable friends! was rocked as an infant in yonder cradle of liberty. He fleshed his youthful sword with you at Lexington and Bunker Hill. Behold him working out his miracles in France, knocking off the shackles of neighboring nations in Spanish America, pursuing his course, sometimes triumphant, sometimes temporarily trodden under foot, betrayed by false friends, overwhelmed by superior force, but still in the main forward and onward over Spain, Portugal, Italy, Germany, Greece! Behold him at this very moment planting his foot on the white cliffs of Albion, and shaking to their lowest foundations the battlements of Windsor Castle! Yes, venerable friends! that mother country, whose unjust pretensions, whose wilful blindness to the true principles of liberty, brought you up in arms sixty-one years ago to yonder hill, is now studying the science of government in your school, and attempting to work out in practice the lessons which the world has learned from your example. Yes, veteran patriots! for all this grand march of political and social improvement which makes up the business of the last half century and gives it a peculiar character in history, the world is indebted in no small measure to you. I mean not, noble friends! to mock you with extravagant praise. You have not done the whole of this mighty work. The lapse of centuries has slowly matured the consummation. Nations, races, successive generations of men have lent their aid in bringing it about. The student in his closet, the martyr at the fiery stake, valor in the van of his armies, and discretion in the dark chambers of civil polity, have all contributed their shares. Who could undertake to number the great and good of other times and other countries, who have borne testimony in various ways to the glorious cause of reform, of improvement, of liberty? We acknowledge their services, we all but adore their memories; but while we render ample justice to their deserts, we feel, venerable friends! that our own revolutionary struggle, in which you, and your contemporary patriots were engaged, constitutes a great, perhaps the greatest epoch in this universal progress of improvement. That this very battle of Bunker Hill, in which you personally took a part sixty-one years ago,—hurried, unprepared, unlooked for as it was,—insignificant as it may have appeared at the time to the proud statesmen and warriors of Europe,—was destined in the order of Providence to become in its results the Marathon of a new Greece. Rejoice then, venerable friends! that you have been made the instruments in a work of such transcendant importance! Welcome once more to this holy mount of sacrifice, where you offered up your best blood, not for Massachusetts, not for New England, not for America only, but for the sacred cause of liberty and law throughout all countries, throughout all time!'



THE ALHAMBRA.

This castle has been immortalized by Washington Irving, our highly gifted countryman, and one of the best writers of the present age. It was formerly the palace and fortress of the kings of Grenada in Spain. It is said to be one of the best specimens now remaining of the architecture of the Moors, who conquered and possessed that country many centuries ago. It is even asserted, that nothing out of Greece or Italy can justly be compared to this noble structure. The site of this castle, or palace, is on elevated ground, which adds to its imposing appearance at a little distance. The exterior, however, is described as anything but beautiful; a number of buildings being crowded together, without appearing at first view to be one habitation or mansion. But the interior is beautiful and enchanting; the apartments are very numerous; and there are the baths, the lions, the hall for ambassadors, the gate of the sanctuary of the Koran, the tower, &c. and the pavements of mosaic work are very fine.

Beets.—The cultivation of the beet, with a view to the manufacture of sugar, has been lately recommended in strong terms by writers in the public papers. The statements made and the reasoning used on the subject, are worthy of the attention of the farmers. The present season, indeed, allows not of action immediately; but it may be well to collect information before the opening of another spring.

Judicial wit.—'Take off your hat, man, cried Baron —— to an Amazon, in a riding dress, who appeared as a witness in court; 'I am not a man,' replied the indignant lady; then, said his lordship, 'I am no Judge.'

JAMES OTIS.

James Otis displayed as much zeal and had as much influence as any one of the eminent patriots of Massachusetts, from the year 1765 to 1771, in opposing the usurpations and the arbitrary claims of the British ministry towards the colonies, and in supporting the principles on which the revolution of 1775 was founded; and which eventually issued in the establishment of our liberty and independence. He has, indeed, been generally allowed as the principal of the patriot band, for several years after the great controversy began. The late President Adams said, 'If any one was entitled to the honor of being the father of the revolution, it was James Otis.' He was certainly one of the first three or five in Massachusetts, who were the able and intrepid leaders in that great event; and but for the early, decided and zealous efforts of Massachusetts, the revolution would not have taken place when it did. There were in other colonies many patriots of fearless spirits and sound minds, who did their full share in the glorious cause; the first of which was the ancient colony of Virginia. Next to James Otis, in Massachusetts, were Samuel Adams, James Bowdoin, John Hancock, John Adams, and Joseph Warren; and the list could be easily extended. It is difficult to distinguish between them with accuracy. All these and more; nay, almost the whole people, entered into the contest with zeal and resolution; and the struggle was not only approved but supported, and successfully terminated, by the great body of the *people*. It was the cause of republicanism; the principles and freemen of republicanism achieved the victory. Let the government be ever that of republicanism; for the security of the rights and the promotion of the welfare and prosperity of the whole people. Let it be for 'the greatest good of the greatest number,' and for the maintainance of the equal rights of all—for the rich and the poor, the rulers and the ruled; and may we not be made to know from sad experience, that 'party is the madness of the many for the benefit of the few.'

James Otis was born in February, 1725, in Barnstable, in the county of Barnstable, where his ancestors had resided for three generations. The first of the family in Barnstable removed there from Hingham, county of Plymouth. The father of Mr. Otis was an eminent patriot, and a very respectable character; he was a justice of the county court, and one of the executive council for many years. He was rather advanced in life when the dispute seriously began with the parent country; but he took an active and decided part for many years, until his death in 1780. His mother's name was Allyn, and she was a native of Plymouth. The family house was standing a few years ago, and we intend to give a view of it in this number of the magazine. James Otis, jr. early settled in Boston as an attorney; he was reputed a good classical scholar, and early became eminent at the bar, as an able and eloquent pleader. His first great effort in the cause of liberty and law was in opposing the *writs of assistance*, which were issued at the instance of the British custom-house officers, and by advice or authority of the judges, but without any statute to justify such a measure. It was deemed altogether arbitrary, and very dangerous to the rights of the citizens; and it was necessary for the liberties of the people, that a decided stand should be taken against such processes; for they subjected the merchants and others to a search of their stores and houses by the officers of the customs, and there was no trial by a jury. The decision would be by admiralty law. All that could be done was to render the measure unpopular and odious, by showing that there was no colonial authority for it, and that it was as arbitrary and unjust as it was severe. Mr. Otis, by his legal learning and great eloquence was able to do this. Writs of assistance in 1761–62 were as odious to the people as the arbitrary acts of the despotic Andros in 1687–8, in nullifying the titles of lands which the people had then long had. Mr. Otis was the leader in the House of Representatives for several years, (from 1763 to 1770) when he was assaulted and wounded in the head by a British officer, which produced a temporary and partial mental derangement. He was chairman of most of the important committees, who reported resolutions on the political state of the colony, and managed the dispute with the Governor and the British ministry. Samuel Adams, who came into the General Court in 1765, was joined with Mr. Otis in many important committees; and was, from that period, equally useful as the former. They acted in concert for a long time; and their ablest associates were James Bowdoin, John Hancock, John Adams, Joseph Hawley, Oxenbridge Thacher, Thomas Cushing, R. T. Paine, &c.

'The Rights of the Colonies,' a large pamphlet, published in 1765, by Mr. Otis, was one of the ablest political papers of that exciting period; and it was long a text-book of the highest authority with the patriots of the revolution. The sentiments and positions advanced by the writer are contained in the Declaration of Independence, and in the Bill of Rights of the State Constitution of Massachusetts.

A few years later Mr. Otis (perhaps with some assistance) wrote a vindication of the town of Boston in its public proceedings, touching the great political questions then agitated, and its circulars to other towns in the colony. No one was more feared, or abused, at that period than Mr. Otis, by the royal party, for fearlessness and ability. Samuel Adams, John Hancock and several others were very obnoxious to the British ministry and the royal governor here; but no one was more distinguished in the early period of the controversy than James Otis.

This eminent statesman and patriot also had the reputation of an able and honest lawyer. He was once engaged in a cause in Plymouth county, where a large amount of property was at stake; but in the course of the trial in court, looking over the papers of his client, he found evidence that the demand was unjust; and though the defendant had not full or legal proof of having paid the debt, Mr. Otis was satisfied that he had done it, and that his client was taking advantage of the ignorance of his opponent; and he immediately told the judges that he must abandon the case; at the moment when, for want of the defendant's ability to show that he had paid the debt, the court and jury were ready to decide in his favor.

When Mr. Otis was obliged to retire from the public service in 1771, in consequence of the effect of the blow on his head by the British officer, it was matter of deep regret with all the friends of liberty in the country; for the people in the other colonies, as well as in Massachusetts, looked to him for support in the great struggle for political freedom. In Virginia they could boast of Patrick Henry, who was often compared to Otis, for his ardor, decision and eloquence; but in that and other states, they then looked to Massachusetts for the chief support; and among its long list of able and resolute patriots, none stood higher than James Otis.

Mr. Otis survived the war several years, but was chiefly in retirement, on account of feeble health. The writer of this hasty sketch recollects seeing him in the college yard, at Cambridge, in the Spring of 1783, a short time before his death, which occurred at Andover, the twenty-third day of May, 1783, by lightning. It is said, that he often expressed an apprehension, if not a hope, that his departure from the body might be by this means.

We have thought that the following statement of the Indians, now within the limits of the United States, and in the west and south-west parts, particularly as to their numbers and names, might be interesting at the present time. It is taken from the *Nashville Banner*, (Tenn.) a very respectable paper.

'The names and numbers of the Indians who have lately emigrated to the west of the Mississippi:

Choctaws,	15,003
Appalachicoles,	265
Cherokees	5,000
Creeks	2,459
Seneca and Shawanees,	211
Senecas (from Sandusky)	231
Potowatomies,	141
Peorins and Kaskaskies,	132
Pienkeshaws	162
Wees	222
Ottowes	200
Kickapoos,	470
Shawanees,	1,250
Delawares,	826

'The names and numbers of the Indian tribes, resident west of the Mississippi:

Ioways	1,200
Sacks (of the Missouri)	500
Omahas	1,400
Ottoes and Missourias	1,600
Pawnees	10,000
Comanches	7,000
Madons	15,000
Mineterees,	15,000
Assinaboins	800
Crees	3,000
Crosventres	3,000
Crows	45,000
Sioux	27,500
Quapaws,	450
Caddoes	800
Poncas	800
Ossages	5,120
Konsas	1,471
Sacks	4,800
Arickaras	3,000
Chazenes	2,000
Blackfeet	20,000
Foxes	1,600
Arepehas and Keawas	1,400

'And there is yet remaining east of the river, in the southern States, a considerable number; the five principal tribes are the Seminoles, Creeks, Cherokees, Choctaws and Chickasaws.

Seminoles (yet remaining East)	2,420
Choctaws ....do....do.	3,500
Chickasaws....do....do.	5,429
Cherokees ....do....do.	10,000
Creeks ....do....do.	22,668

'Those stated as western tribes, extend along the whole western frontier. And taking as true the opinion of the Department, that the average number of an Indian family is four, it may be seen what number of warriors, by possibility, might be brought into the field.'

St. Evremond compares the passions to runaway horses, which we must tame by letting them have their run; a perilous experiment, in which the rider may break his neck. It would be much better to restrain and conquer them before they get head; for if they do not obey, they will certainly command us.

Boethius composed his work on the Consolations of Philosophy in prison; and Grotius also wrote his Commentary of Matthew, and some other works, when in confinement for political charges. This was the case with Sir Walter Raleigh, a gallant and adventurous man, in the reign of Queen Elizabeth; he was confined in the tower, for ten or eleven years, when he wrote his History of the World; but which he left not wholly finished.

BONAPARTE.

And that proud heart and puissant arm,
That high and haughty brow;
He woke the world to wild alarm—
Where lies the victor now?

He lies beneath the cold, cold earth,
Unhonored in his grave;
Nor gains a tear of sorrow, worth
The envy of a slave.

CARRIER PIGEON.—[COLUMBA TABELLARIA.]

We have spoken of the *genus columba* in a former number. There are several species. But of all the varieties of the pigeon, the carrier, or messenger, (so called) is the most remarkable for its attachment to the place of its nativity. They derive the name from the circumstance of being employed to convey letters from one place to another. For this purpose, they are brought from the place where it is wished to send information; a letter is tied under the wing and the bird set at liberty; and by instinct it flies in a direct line to the place whence it had been taken.

This species is a native of the East; and the practice of sending letters by them was first known in that part of the world. They have a ring of feathers round the neck, their feet are covered with down; and they build their nests in the neighborhood of human habitations. Some pretend that the dove employed by Noah was one of this species. It is matter of history, that the Sultan Mahmoud established a post-system, in 1170, in which these birds were the messengers. The system was improved in the next century; and the price of a pair of these pigeons was raised to one thousand Arabic ducats.

There were similar posts in Egypt in 1450. According to Pliny, despatches were sent in his time by the Roman generals. In modern times, the Dutch have employed them, as in the siege of Harlaem in 1572, and of Leyden, in 1574. At the present time, we are told that merchants in Paris and Amsterdam employ carrier pigeons, that the price of stocks in one may be early known in the other city.

Several respectable natives have lately formed themselves into a club or society, at Allahabad, Hindoostan, for the purpose of collecting and publishing scarce Eastern works.

LOVE AND TIME.

[From the 'Asiatic Journal.']

The summer sun was setting fast,
When, lo! an aged Pilgrim came
Unto a pleasant river's banks;
Time was the trav'ler's name.

'Hasten, hasten,—while I speak,
The sands within the glass are flying,
Come, and ferry me across'—
Thus the trav'ler kept crying.

On the other side, a youthful band
Unto the Pilgrim listen'd;
And many a foot ran o'er the sand,
And many an eye of beauty glistened:

While merry *Love* began to loose
His bark with a joyful chime;
'He sinketh oft,' sigh'd a wiser voice,
'Who sails in a boat with time.'

Now *Love* upon the stream is rowing,
And soon to *Time* he draweth nigh;
And *Time* leaps in, and they are going,
Unmindful of the wind or sky.

His light oars through the waters flash
And still the burden of his song—
'See, shepherd maids, how pleasantly
Love sails with *Time* along.'

But fainting *Love* grew weary soon,
(Alas, he had done so before!)
Then *Time* unto the mirthful tune,
Began to ply the oar.

'Alas! poor child, how weak thou art!
How soon thy powers decay!
How soon toil chills thy bounding heart!
How soon with time love dies away!'

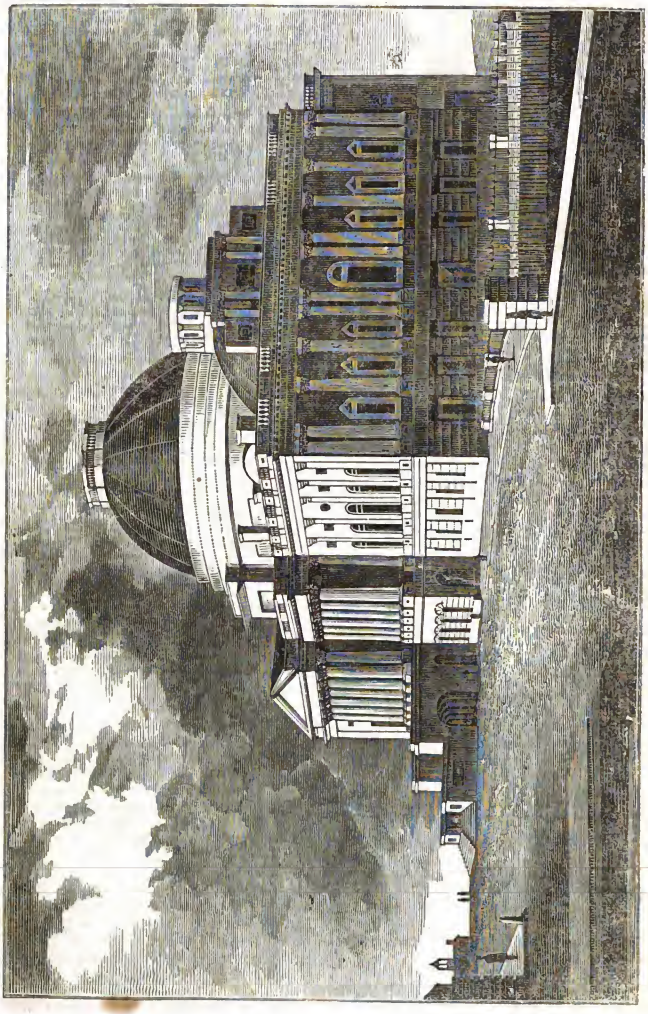
WHAT SHOULD CONSTITUTE A BELLE?

A *heart* of warmth, a *mind* of solid worth,
With these unite a little graceful mirth;
Tact, to converse with those that court her smile,
And sensibly to deal out trifles all the while;
Soul to treat all with kindness and respect.
* * * *
Her conduct gentle and her well trained mind
Replete with lore of books and human kind;
The first from foolish pedantry exempt,
The last from hatred or low-bred contempt.
Prone to kind looks and words. Without pretence,
Or affectation is her strong good sense.
Graces like these would make each lass a belle,
The title *thus* would suit a lady well.
Strive then these virtues and these charms to gain,
And hope the peerless queen of thousand belles to reign.

The emigrations from England (of those who sailed from Liverpool alone) the present year, up to July, are 24,000, the greatest number, before, from that port, in any one year, was 20,800. Many of these emigrants find a home in our poor-houses; 14,000 emigrants have also arrived in Canada, more than did last year; and many of them will soon pass over into the *States*.

ORIGIN OF THE GIPSIES.—It has been sometimes supposed that this singular race of people were from Egypt; but it is now the general belief that they passed into the west parts of Europe through Bohemia, from the central parts of Asia or north of Hindoostan. And they resemble the present race inhabiting that part of Asia.

The tea plant has been introduced into Delhi, from China; many thousands have been transplanted, and their removal has not proved injurious.



[View of the Capitol at Washington.]

THE CAPITOL IN WASHINGTON.

We present a north-east view of the national or federal capitol at Washington, the seat of government of the United States, and the building appropriated to the use of the federal legislature. In a former number of the magazine, we gave a view of the front or western part of this spacious edifice. The north-eastern view now exhibited, is equally imposing; and, in some respects, more beautiful. It is the view presented to the traveller, who enters Washington from Baltimore: and it bursts suddenly upon the sight, on rising an eminence not far distant.

This spacious and costly building stands on elevated ground; and the ascent from the west and north-west is greater than from the north-east and east. But it is so elevated, that it is a very conspicuous object from all parts of the surrounding country. The front, or western view is the most imposing, as one then sees the several flights of steps, ascending from the street to the entrance of the building. At the east of the capitol, of which a good view is here given, but could not be in the former drawing, as that presented the western front, there is a large open area or yard, for the accommodation of carriages to approach the steps on the eastern side, which cannot be done on the western, only by foot passengers. Beyond this yard, still farther east, there are extensive grounds, tastefully laid out and ornamented with trees; while the yard on the west has many ornamental trees; and a little farther, a fine botanical garden.

The capitol was so fully described in a former number, that it is not necessary to be minute, in the present account. The length of the building is about 350 feet, and the depth 120 feet. From the ground to the top of the dome, which surmounts the capitol, it is 170 feet. The largest room is appropriated for the representatives; and it is not surpassed by any in the world. The senate chamber is large, high, and elegantly finished: and the rotunda and library are also spacious apartments. The rotunda is of an octagonal form; and is adorned with several very splendid historical paintings. The senate chamber is in the north of the capitol, which is the prominent part, in the view here given. There is also in the north-eastern part, a room for holding the supreme court of the United States. But it is low and ordinary compared to those of the representatives and senate. Why this should be we are not informed. But we think the judicial department of government as important as the legislative, or the executive, both as to stability, and the enjoyment of equal liberty.

ARCHBISHOP CHEVERUS.

Archbishop Cheverus, who lately died in France, was several years the devoted and faithful pastor of the Romish church in Boston; and he was much respected and beloved by all who knew him. We are no friends to the catholic system of religion; and we are even opposed to putting our children under Roman Catholics for an education. We say more, we are astonished that any intelligent Protestants will do it. But we can and do distinguish between the errors of a system and individuals who adopt it; and we honor virtue and goodness in every one, whatever we may think of his speculative creed.

Archbishop Cheverus was amiable, devout, and diligent as a pastor in advising, exhorting and comforting his flock.

To show the change of things and of laws, within forty years, I will relate an anecdote respecting Cheverus. He had a small society on Damiscotta river, in the county of Lincoln, Maine. In the simplicity of his heart, he joined a man and woman belonging to his society in marriage as desired. This was a violation of the law, as it then existed. For he was not known in law as the minister of the town. He was indicted by the grand jury, on the complaint of some malignant or very weak man. He was brought to the bar of the court to be tried for a crime; and a conviction would have been followed by a heavy fine, or by imprisonment. As I knew him before, and was satisfied of his innocence, so for as intention was concerned, I invited him to my house, and attended him to the court and to the bar. The court were informed of his not intending to violate the laws of the land, and soon directed Mr. Solicitor D—— to enter a *nolle pros*. But the good man never forgot it. His heart was full of gratitude; and he always spoke of it when we met with great feeling.

Not entirely irrelevant to this, two other anecdotes may be mentioned, as illustrating the views of people respecting the catholics, at and before the period already referred to. Soon after the war of the revolution, which had brought us much acquainted with the French officers, Bishop Carrol of Maryland was in Boston, on the day of election, and President Willard of the university, who walked at the head of the clergy in the procession, placed Bishop Carrol at his right hand. The common people were amazed they expressed their surprise and regret; and ventured to predict that some great calamity would soon fall upon our churches. The other anecdote is the following. Rev. Dr. Sewall of Boston was in the constant practice of praying for the downfall of antichrist, and the fact was known even at Rome. A Mr. Palmer of Boston, about that time visited the *eternal city*, in his travels on the continent of Europe, and was introduced to his Holiness, the Pope. Gangenelli was then in St. Peter's chair. He was an enlightened and liberal man; and his bigotted cardinals called him a *protestant*. He inquired of Mr. Palmer, if 'good Dr. Sewall still prayed for the destruction of antichrist.' 'Yes,' said Mr. P. 'and he is very sincere, I believe; though I do not presume to say that his opinion on this point is correct.' 'Give my regards to the pious old gentleman,' said the Pope, 'and tell him I hope to meet him in heaven.'

According to a late estimate, made by one qualified to form a correct opinion, the whaling ships of the United States are 460, and are on an average, 375 tons each; making 172,500 tons, or one tenth of the whole tonnage in the Union. About one third of the whale ships belong to New Bedford and vicinity. Nantucket has nearly a fourth part of the whole. The business has been very profitable of late, and is extending to other places.

INTERESTING NATURAL PHENOMENON.

[From the 'Salem Gazette.']

On Wednesday, August 24, I had the good fortune to witness with several friends, the most splendid mirage I ever beheld. This interesting spectacle known under the names of the Spectre of the Brocken, Fata Morgana, and Spectre Ships, is much more frequent than is generally supposed, and though now divested of its supernatural character by the searching scrutiny of science, is yet an object of intense delight to the philosopher and the lovers of nature. It was an object of superstition among the early American colonists, and has been happily seized upon by Washington Irving, in his beautiful description of the storm ship. Baron Humboldt, in his Travels in South America, describes a very curious mirage, in which cows were seen at a great height in the air. Scoresby, during a voyage to Greenland in 1822, says that having seen an inverted image of a ship in the air, he examined it with a telescope, and found it to be his father's ship, the Fame, and immediately announced it to the officer of the watch. Many more intersting instances of a similar nature might be mentioned, but I hasten to describe the one we witnessed. The phenomenon is more interesting, as it differs from any on record. It was seen from the New Cove House, near Philip's Beach. The day was unusually clear and pleasant, and we were on the lookout for ærial images, as one of our party had seen them on a similar day, a few weeks before. Towards 3 o'clock, P. M., the shore south of Nahant, known as the South Shore, began to loom, and in a few minutes the mirage was upon the coast for leagues, and the Flying Dutchman, the terror of sailors, was before us in all its beauty. That part of the coast nearest to us, appeared to the naked eye to rise to a great height, and looked as if it were formed by immense perpendicular sand cliffs. On examining it with a glass, double images of all discernible objects were beautifully distinct. If a house was seen at the foot of the cliff, directly above it and at the top of the cliff was also seen an erect image of the house, having as perfect outlines as the real object.

On following the coast towards its most distant part, the mirage assumed a different and more interesting character. The extreme visible coast seemed projected and hanging over the sea for miles, without foundation. It looked as if the sea had washed away its basin, and left its upper portion dangling in mid air. By the telescope, this was found to be the inverted image of the coast below the horizon and perhaps many miles beyond the limit of direct vision. The tops of the trees were just dipping into the sea, and above them a small boat was seen sailing in the shrubbery. Presently the hitherto hidden coast rose from the waves, and now it looked as if it had been cleft by some mighty effort and the light of heaven were shining through the chasm. Trees were seen corresponding to the inverted images above, and the little boat was seen sailing near the coast. Following this image out to sea, something like a balloon was seen floating in the air, but by the glass it was found to be the inverted image of a sloop under sail and below the horizon. Vessels of all descriptions were seen sailing in the air with their hulls uppermost, in some instances the real objects not being visible, and in others being blended with the image so as to make a vessel of twice the ordinary height. Sometimes the image met the object vessel at the top of its mast, and at others was high in the air above it. The phenomenon lasted above an hour, with a constantly varying character.

The mirage is doubtless the origin of the Flying Dutchman and under a variety of forms was a source of superstitious terror until within the last fifty years, since which time it has become an object of scientific investigation, and is now reduced to definite laws, and can be produced at pleasure on a small scale. It is the effect of a double refraction through a stratum of air of irregular density. Those who are interested in the subject will better understand it by referring to Brewster's Letters on Natural Magic, as it is there explained by plates.

Fig.1

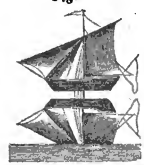


Fig.2

NATURAL MAGIC.

[From Dr. Brewster's Letters on Optics.]

'In the year 1793, Mr. Huddart, when residing at Allonby, in Cumberland, perceived the inverted image of a ship beneath the image, as shown in Fig. 1; but Dr. Vince, who afterward observed this phenomenon under a greater variety of forms, found that the ship which was here considered the real one was only an erect image of the real ship, which was at the time beneath the horizon, and wholly invisible.

In August, 1798, Dr. Vince observed a great variety of these ærial images of vessels approaching the horizon. Sometimes there was seen only one

inverted image above the real ship, and this was generally the case when the real ship was full in view. But when the real ship was just beginning to show its top-mast above the horizon, as at A, Fig. 2, two aerial images of it were seen, one at B inverted, and the other in its natural position at C. In this case the sea was distinctly visible between the erect and inverted images, but in other cases the hull of the one image was immediately in contact with the hull of the other.

'Analogous phenomena were seen by Captain Scoresby when navigating with the ship Baffin the icy sea in the immediate neighborhood of West Greenland. On the 28th of June, 1820, he observed about eighteen sail of ships at the distance of ten or fifteen miles. The sun had shone during the day without the interposition of a cloud, and his rays were peculiarly powerful. The intensity of its light occasioned a painful sensation in the eyes, while its heat softened the tar in the rigging of the ship, and melted the snow on the surrounding ice with such rapidity that pools of fresh water were formed on almost every place, and thousands of rills carried the excess into the sea. There was scarcely a breath of wind: the sea was as smooth as a mirror. The surrounding ice was crowded together, and exhibited every variety, from the smallest lumps to the most magnificent sheets. Bears traversed the fields and floes in unusual numbers, and many whales sported in the recesses and openings among the drift ice. About six in the evening, a light breeze at N. W. having sprung up, a thin stratus or "fog bank," at first considerably illuminated by the sun, appeared in the same quarter, and gradually rose to the altitude of about a quarter of a degree. At this time most of the ships navigating at the distance of ten or fifteen miles began to change their form and magnitude, and when examined by a telescope from the mast-head exhibited some extraordinary appearances, which differed at almost every point of the compass. One ship had a perfect image, as dark and distinct as the original, united to its mast-head in a reverse position. Two others presented two distinct inverted images in the air, one of them a perfect figure of the original, and the other wanting the hull. Two or three more were strangely distorted, their masts appearing of at least twice their proper height, the top-gallant-mast forming one half of the total elevation, and other vessels exhibited an appearance totally different from all the preceding, being, as it were, compressed in place of elongated. Their masts seemed to be scarcely one-half of their proper altitude, in consequence of which one would have supposed that they were greatly heeled to one side, or in the position called careening. Along with all the images of the ships a reflection of the ice, sometimes in two strata, also appeared in the air, and these reflections suggested the idea of cliffs composed of vertical columns of alabaster.'

REFORM.

Reform is the cry with a portion of our citizens, at the present day. But is there just occasion for it? Is there a reasonable call for any radical, or material change in society, or in government? We mean, of course, as to the great principles which direct and govern the people of this country. No one can deny that some individuals, both in public and in private stations, need reformation. They might change their selfish views and conduct for the better. But to call out for reform, as if our republic should be materially changed, or society likely to be improved by new moral or conventional maxims, is quite mal-apropos in this country. In the old countries of Europe, no doubt, some reforms are required for the public good; for the cause of humanity, and for the enjoyment of equal rights among the people. But surely it is not so with us, in our young republic. We fear the cry is sometimes raised by heartless demagogues, for party and selfish purposes. But have we nothing to fear of oppression or corruption, even in this free government, where we boast so often and so loudly? Perhaps, we have; and we would not cry, 'peace, peace,' in a time of danger. Let us be convinced, that there is danger, and we will lift up our voice like a trumpet, and cry aloud, and spare not the corrupters of the age.

It is admitted, however, that there may be cause for caution, prevention and watching, though there is none for great reforms. Prevention is better than cure. And to prevent the creeping in of corruption, wisdom requires a vigilant guarding and preserving of our present happy privileges. There is a natural tendency in society to deterioration, particularly, as to liberty and morality. The rich are always in danger of oppressing the poor; and men in power apt to usurp more authority than is favorable to the liberty of the citizens, and more than the constitution gives them. The rulers are therefore to be watched, and changed, as often and as soon as they become arbitrary or oppressive. And the rich, while protected in all their rights and property as the humblest and poorest citizen, must not be favored by the laws in any way; and if they aim to monopolize or to oppress, the laws and the officers of law must give them no support in their selfish plans. The reform, or the prevention rather, that we seem called on to make or to adopt, is to counteract the natural tendency of society to monopolies, to luxury and ultimate oppression,—in one class over another. There always will be poor in society; and they have duties to perform as well as the rich. And because a man is poor, this gives him no right to cry out for reform: though it does give him, and so it does all others, whether very poor or not, reason to complain of oppression, and to prevent, in all legal ways, the *sinister* attempts of others after wealth or power. Let us be wise in time. Let us imitate the wise conduct of our fathers, to give as little power as may be to rulers, to watch their course, to reject the selfish and unprincipled, to prefer the intelligent and virtuous to the aspiring, and to place confidence only in the truly patriotic, the *sincere* friends of republican liberty.

'Wanton jests make fools laugh, and wise men frown. Seeing that we are a civilized people, let us not be naked savages in our talk. Such rotten speeches are worst in withered age, when men run after that sin in their words which flieth from them in the deed.'

DIFFERENT AGES OF THE SILK WORM.

The plate represents a branch of mulberry, on which is depicted the several stages of the existence of the silk worm, from the egg to the moth.

No. 1 is the egg,
2, Silk worm in the first age,
3, Second age,
4, Third age,
5, Fourth age,
6, Fifth age,
7, A peculiar species of worm, of a dark grey color with singular marks,
8, The cocons,
9, Open cocon, with the grub,
10, A cocon from which the moth is about to emerge,
11, Cocon,
12, Moths,
13, Female moth laying her eggs,
14, Raw silk.

There are various kinds of the mulberry tree; in all there are more than thirty. They are most commonly known as the black, the red, and the white. Of the white alone, which is most known, and is chiefly used for the food of the silk worm, there are about thirty varieties and sub varieties. Of what is generally known as the common white there are eight principal varieties, four of the wild stock and four of the grafted. The plate represents a grafted kind. The tree grows from twenty to fifty feet high, according to variety, climate, soil, &c.

The worm passes through three, four or five changes or stages of life; the aggregate of which makes the whole term of his existence from thirty to forty days. The silk worm, (bombyx mori) is of the order lepidopteres, family of nocturnals, of the tribe bombicites, of which a great number spin a silkly cocon, which has given them the name of spinning moths. After the worm has passed through his several changes he begins spinning this silk, which he very ingeniously lays up in the form of a shell or envelop, which he puts together with a resinous matter; and making a firm entrenchment, thus builds himself a beautiful mausoleum, and, within it, passes through his chrysalis state; and after a few days comes forth a new creature; having in his metempsychosis put on wings, and appears in the form of a cream-colored moth. He exists but a few days in this state, taking no nourishment, and dies.

GOVERNOR EDWARD WINSLOW.

This eminent and pious man was one of the principal characters in the company which first settled Plymouth, in Massachusetts; now usually called the 'Old Colony.' He was of a respectable family in England; and about twenty-six years of age when the Leyden church came over in the May-Flower, in 1620. He does not appear among the active reformers in England, who were there severely persecuted some years previously: they were Brewster, Bradford, Carver, Fuller, &c: but he joined the little band in Holland, as Standish did, a few years before their removal, and settlement at New Plymouth.

The wife of governor Winslow accompanied him, but died in March, 1621; in consequence probably of exposure to cold and the want of proper food, in the wilderness. In May following, Mr. Winslow married Susanna White, the widow of William White, who died soon after their arrival. The situation of the colony at that time, furnishes an apology for this early marriage; without any just reflection on his regard for his former wife. His son, Josiah Winslow, afterwards governor of the colony, was born in 1627; and in 1648, at the age of twenty-one, was chosen a representative to the General Court. Josiah Winslow married a lady by the name of Pelham; a connexion of the Duke of Newcastle; and he was considered the most courteous and accomplished gentleman, in all New England, in his day.

The portrait of governor Edward Winslow, now in a room of the Massachusetts Historical Society, has been supposed to be by Vandyke. But Vandyke died in 1641; and the portrait was taken in 1651, and probably by one who had been instructed by that distinguished artist.*

* It should be recollected, that it was the custom of the time to wear mustachios, and also a little tuft of hair between the chin and under lip.

Edward Winslow was governor of Plymouth colony three years, though Hutchinson (by mistake) says only two. He was also often employed as agent to the government of England, between 1625 and 1645, on business of great importance to the colony. In this agency, he conducted with much ability and fidelity. On several occasions, he replied to the complaints made against the plantation, and averted the arbitrary designs formed for its ruin, or subjugation. He was instrumental in forming a society in London, for the propagation of the gospel among the native Indians of New England; and his intimacy with governor Winthrop of Massachusetts led to his being appointed agent also for that larger colony, to the government of the parent country. Soon after Cromwell became the chief of the commonwealth of England, Winslow was employed as a naval commissioner to attend the English fleet in the West Indies against the Spaniards. And while on that enterprise, in the year 1655, he was attacked with a violent fever, of which he died after a few days sickness.

Governor Winslow was highly esteemed by all classes of people, as well in England as in America; and his memory is still cherished with respect in the old colony. Many of his letters and other writings have been preserved; and they discover great intelligence, good judgment and sincere piety. His greatest, if not his only fault, was that of the age, which was intolerance in religious opinions. It is matter of surprise and regret, that the good men of that day, while they contended earnestly for religious liberty, (and no doubt supposed they were perfectly right in their opinions and sincerely meant to conform to christian truth) they required all others to agree with them, and would not endure scarcely any variation from their own creed. This was really a mistake, and an error now perceived by every one: but it deducts not at all from the honesty, singleness of purpose, disinterestedness and piety of the eminent men among the Puritans of 1620 and 1630.

LOVE VINDICATED.

[*Carey's Library of Choice Literature.*]

Love from the palace flies,
'Mid humble roofs to dwell:
Within the secret cell
Of the fond heart, which hath no other prize,
He lies.

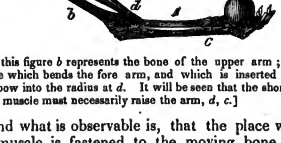
He hates ambition's storms;
Luxurious pride he scorns;
The purple hangings may not be his bowers:
For love is like a flower—
Tho' sunny smiles give birth
And summon him from earth,
Yet he is reared to strength by sorrow's shower

And those malign who say,
When poverty makes way,
That he, the beauteous god, alarmed, retires;
No—for the boy is brave,
And o'er affliction's wave
He lights the beacon of his heavenly fires.

When all is lost beside,
They who in him confide,—
Faithful and loyal to their bosom's lord,—
Shall find a shelter there,
From sorrow, want and care—
Shall find—the empire of the world restored.

THE BONE AND MUSCLES OF THE ARM.

The manner in which the muscles apply their power to move the bones discovers a perfect acquaintance with the mechanical laws pertinent to such cases. Generally speaking, every muscle is fastened firmly at one end to a bone it cannot move, or which is sufficiently fast to pull by, and, at the other, to the bone it is intended to move or to pull upon. A cord tied between a door and the partition may give a very good idea of the action of a muscle. The moving bone is the door; the joint is the hinge; while the shortening of the muscle moves the bone, in the same manner as the shortening of the string moves the door. Thus a muscle is fastened to the bone of the upper arm, which comes down over the elbow joint, and is attached to the arm below. By the contraction of this muscle the lower arm is raised up.



[In this figure *b* represents the bone of the upper arm; *a* the muscle which bends the fore arm, and which is inserted below the elbow into the radius at *d*. It will be seen that the shortening of this muscle must necessarily raise the arm, *d*, *c*.]

And what is observable is, that the place where the muscle is fastened to the moving bone, is so very near the joint. Here is an admirable attention to mechanical laws.

One would think the muscle would pull to great disadvantage from being inserted so close to the joint. It would seem like drawing to a door with a string fastened just by the hinge, which every one knows would make it very hard to move the door. The elbow certainly appears to be bent with a great loss of mechanical power. It would seem far better if the muscle, which raises the fore arm, had reached down to the hand, and been inserted at *c*. This would have given a greater purchase.

The advantage obtained is this, and the door is a good explanation. When the string is fastened very near the hinge, it requires a strong pull to draw the door; but then, if the strength is sufficient, it will make the door move much more swiftly than if the string were attached at a greater distance from the hinge. So, when a mechanic is raising a ladder, if he is able to lift it up by taking hold of one of the lower rounds, close to the foot, where the ladder turns upon the ground,—we may say, where the *hinge* is, in that case he will do the business much more quickly than if he were to begin at the farther end. Thus, the nearer the joint the muscle acts, the swifter the motion produced, provided the strength of the muscles is sufficient.

And for this, provision is made. The Creator has given sufficient *vital* power to the muscles to admit of this sacrifice of the mechanical or *lever* power, as they evidently require to be stronger on account of their insertion so near the joint. Thus a small thread would move a door, if applied to the handle, though it would snap asunder, if fastened close to the hinge. But let it be a strong cord and a powerful hand, and the nearer the hinge the better for a swift motion. Now, rapid motions are necessary to us in a thousand familiar actions.

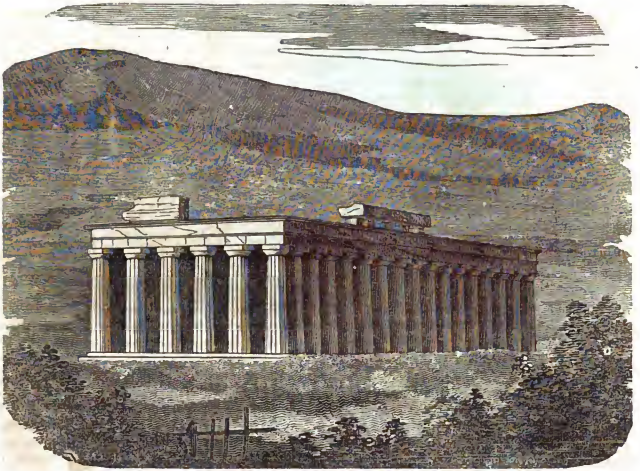
AN EXTRAORDINARY JARGONELLE PEAR.

This very great curiosity, or anomaly, in the vegetable kingdom, grew in Lancaster, England. four years ago. The one at the stem was first formed; it then sent out a blossom, which produced the second. This produced two blossom buds more, from which grew the two smaller pears. The gentleman who gave this account, says he had heard of a similar production of a pear; or of a group, consisting of six, which were well formed.

TO THE FOUNDER OF MECHANICS' INSTITUTIONS.

Let the bold warrior boast his laurell'd head,
To nourish which whole hecatombs have bled;
Let sages grey, with speculative lore,
Delight to scan their unproductive store,
Which clothed in ancient words of little worth,
Like precious seed unburied in the earth:
The petty pride of birth, the vaunt of power,
And all the gewgaw pageants of an hour,
Which glare a moment, and as quickly pass
As airy shadows from the vacant glass;
Thou needst not covet—thy superior fame,
Shall live while Truth and Science have a name.
'T was thy proud lot the common crowd to teach,
The fruit of Knowledge grows within *their* reach!

T. M. B.



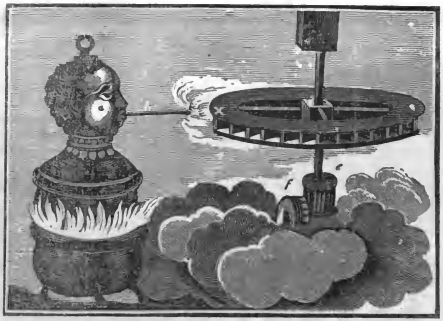
[View of the Ruins of Pæstum, in Italy.]

PÆSTUM.

This is supposed to be the oldest temple or building now remaining in the extensive peninsula of ancient Italy: though, referring to the later divisions of that country, we should say, that it is in Naples. It is situated about six leagues to the south of the present metropolis of that kingdom, and near the gulf or bay of Solerno. The ruins are numerous, and are situated on an extensive plain, with mountains on the east. The principal buildings, the ruins of which, (more or less perfect,) remain, are three, though there are indications of the sites of several others. The most perfect one, now to be seen, is represented in the annexed drawing; which is taken from one said to exhibit a correct view.

This was an ancient building even in the time of Cicero and other Roman writers, who spoke of it 1900 years ago; but who were unable to give any account of the age in which it was erected. It was probably more than 500 years before our era; and was built by Dorians (who settled there at a very remote period) a colony of Phœnicians; or who sprung from that people. They probably came directly from some part of Greece, when they settled in Italy. The style of architecture is similar to that known to be adopted in Greece in the early days of her civilization and glory. The Phœnicians were very early an enterprising, a commercial and therefore a civilized people, compared to the rest of the world, except the Hebrews and Egyptians, to whom probably they were much indebted for their superior knowledge and improvements. They early settled a colony in Greece, and then, again, in Italy. The best and most correct account of the ancient building, at Pæstum, here given, is the following, collected and abridged from several writers.

Pæstum is the name given to the ancient city, rather than to the single edifice here exhibited. The air of the place is very mild and balmy, and the vicinity is remarkable for its fragrant roses, which bloom regularly twice a year. There are remains or ruins of two other large buildings. This has nine pillars at the ends, and eighteen on the sides, including the angular columns. A row of pillars, from the middle pillar of one end to the middle pillar at the other end, divides it into two equal parts; and seems to prove that it was not a temple. Some suppose it was a court, some a royal residence, and some an exchange and market-place. Like most other ancient buildings of the Doric order, it is raised upon substructions forming three gradations, intended to give elevation and *relievo* to the edifice; the columns rise without bases from the upmost degrees; they taper very little towards the top, and are fluted four diameters in height. The capitals are flat and prominent; the order and ornaments are the same in all, with a low pediment. They are composed of a porous stone, and are of a yellow gray color. The three temples stand in a line; in front of which are marks of a large theatre. The walls of the city remain from five to twelve feet high, and are of solid blocks of stone. The space covered by the ancient city is about four miles in circuit; and the work was of great strength, judging from the remains of the edifices and the walls. Now one cottage and two small farm-houses are all the habitable buildings on the spot where formerly (2,500 years ago) stood a large, rich and populous city.



FIRST APPLICATION OF THE POWER OF STEAM TO A USEFUL PRACTICAL PURPOSE.

The first person in modern times who applied the expansive power of steam on any scale to a useful practical purpose, was Giovanni Branca, an eminent Italian mathematician, who resided at Rome in the beginning of the seventeenth century. His contrivance was an œlipile, from which steam issued upon a wheel formed with float boards or vanes, like a water-wheel or wind-mill, and thus produced a rotatory movement. This wheel, by some intermediate mechanism, gave motion to the stampers of a mill for pounding drugs. The above figure is copied from that given by Branca to explain his invention; but it must be considered only as an ornamental and picturesque illustration of the principle by which he produced the moving power in his stamping-mill; not as a view of any part of the machinery which was actually constructed. *a* is a boiler in the shape of a negro's head. *b*, a pipe proceeding from it, which conducts the steam upon the vanes or boards of a wheel, *x*. Other wheels, *e*, *f*, are attached in the usual manner to communicate the motion in the required direction.

It is on account of this contrivance that Branca is considered by his countrymen to be the inventor of the steam engine; and even in a recent English work on this subject, he is allowed the merit of a *first idea*. To this he certainly has no claim; neither can his engine be compared with Hero's for its ingenuity, nor to De Caus's for its efficiency. Besides, long before this period, the same mechanism was described by Cardan, as moved by the 'vapor from fire.' And the mere substitution of steam by the Italian philosopher is not so original or important, as to give to the transition the rank of an invention. Branca was, however, a man of much ingenuity, and many of his machines are highly creditable to his abilities as a scientific mechanic.

The elasticity of the vapor of water, which had long been known to philosophers, but to them only, had now become familiar to water-work artists and in their hands it was applied in a variety of ways to their favorite problem of raising water above its level in jets and fountains.

THE DOG.

The fidelity, the attachment, and the discriminating sense, or instinct of the dog, is proverbial. But the following anecdote, related by Mr. Hogg, the Ettrick Shepherd, is as remarkable as any perhaps on record. On one occasion, he says, nearly seven hundred lambs, under his care at weaning time, broke away, about midnight, and scampered off, in three different flocks, across the neighboring hills, in spite of every effort made by himself and an assistant to prevent it. Sirrah, cried the shepherd to his faithful dog, they are a'wa. The night was so dark that he could not even see the dog, when he gave the word. But the dog heard his master's voice, and set off in search of the runaway lambs. Meanwhile, the shepherd and his assistant did not fail to do all in their power to recover their lost charge; they spent the night, in scouring the hills for miles round; but could not obtain notice of the lambs, or of the dog. They were to return and give information of the loss of the lambs. On their way home, however, they saw a lot of lambs at the bottom of a deep ravine, and the faithful dog in front of them, looking round for relief. They were astonished to find, that not one lamb was missing. How the dog had collected them all together in the dark, was most unaccountable. If all the shepherds in the country had been there, says Mr. Hogg, they could not have effected it with more propriety.

CHANGE.—The only thing that is constant; mutability being an immutable law of nature.

> 'Men change with fortune, manners change with climes,
> Tenets with books, and principles with times.

The sea is to the land, nearly as 160 to 40, or 4 to 1.

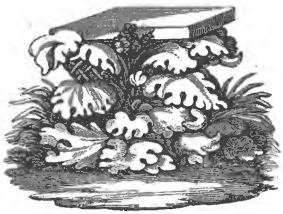
PRESENT STATE OF EUROPE.

The politicians in the United States are watching the movements in Europe, with almost as much interest as the Europeans do the conduct of the government and people of America. The advocates for monarchy in the old continent are anxious to learn the result of our experiment of a republican government; and they often predict that its period will be short. Our welfare and prosperity in this great republic administer reproof to their monarchical theories; and vindicate the claims of the people to the rights of self government. If we abuse our liberty, they will have an excuse for clinging to old principles of legitimacy, and for resisting all proposals of reform. But if we exhibit proof that a republican government can be supported, and order and authority maintained, while the liberty of the people is recognised and preserved, they will yield to the wishes of the friends of humanity and mild government in their own country, and will acquiesce in a gradual reformation. The changes in France have been very great within the last half century. The first great revolution, though in the name of liberty, was attended with injustice, cruelties and outrages, far exceeding the former reign of monarchy; and a severe military despotism succeeded to the reign of terror and revolution. A better state of things has existed since 1830, the year of the last important change in the government. The people have as much liberty perhaps as is consistent with law and order. And the prince is as great a favorite with the people, as can be justly expected from the national character. In all countries, and under all governments there will be some discontented, and some ready to aid in a revolution.

But we look with more interest on the movements in our father-land. We cannot but feel a great interest in their welfare, on account of our natural relation to them, of our commercial connexion, and of our literary intercourse. We rejoice in all the real reforms in old England, and should sincerely regret any sudden and violent revolution. A spirit of moderate reform appears to be prevailing, and the former opposers of all changes in the government have been found lately to favor many plans proposed for social improvement; while the friends of reform seem to be content with gradual alterations, as the people can bear them, and run not into the extremes of pretended reform for which the radical contend.

The late ecclesiastical reform bill, so called, will effect very little, and it falls far short of the wishes and expectations of many discreet citizens. The salaries of the clergy, of the higher order, are very exorbitant, and the late deduction is little more than a name. Many of them still receive from 50,000 to 70,000 dollars a year, while the great body of the working clergy are starving on 150, or 200 dollars. The plan of Bishop Watson, fifty years ago, that as the higher sees became vacant, the new incumbent should receive but a reasonable compensation, and the surplus divided among the poorer curates, was a reasonable one. But he was called a radical and a leveller, and his proposal was scouted by all the rich and lazy ecclesiastics in the kingdom. But some such measure must soon be adopted there, or a levelling system will before long take place by force and violence.

The reform in parliament is in favor of the people; and if the bishops should have leave to stay at home and take care of their flocks, the people would gain by it, and the government be maintained with as much stability and wisdom as heretofore.

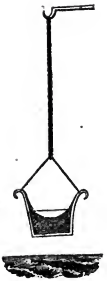


SUPPOSED ORIGIN OF THE CORINTHIAN ORDER OF ARCHITECTURE.

The above wood cut represents the leaves of a plant called the Herb Bear's Breech, the leaves of which it will be observed are large and shaggy, and the artist has given it all that beauty of form which it is said, from the accidental circumstance of the pressure on the top, to have originated in the mind of Callimachus the idea of the Corinthian order of architecture.

It was at first used by the ancients as an ornament to friezes and cornices, and at length to the other members of architecture, but it is principally employed as the grand ornament of the *Corinthian and Composite capitals*. The Greeks used for this purpose the leaves of the cultivated acanthus (*acanthus mollis*), commonly called brank ursine, or bear's breech, from its shagginess, which grew spontaneously both in Greece and Italy. The Gothic architects and sculptors, on the contrary, have used the wild and prickly acanthus (*acanthus spinosa*) being smaller in its parts and more suited to the littleness of their styles of art. Although architecture has made the greatest use of the acanthus, yet the other arts have also adopted it as a chaste and splendid decoration. We find among the ancients, as well as among the moderns, various instruments, household furniture, and utensils, ornamented with leaves of the acanthus. These artists, in preserving the general form and character of the plant, have made their sinuosities and curves more or less prominent, to suit their purposes, and have thus given them a more sculpturesque effect. In the Corinthian capital they are executed with more fidelity and elegance: the whole plant surrounds with its aspiring leaves the vase or bell of the capital, as if attempting to lift up the abacus that covers the whole, they then turn down and form themselves into graceful volutes.—*Partington.*

Caoutchouc Candles.—An attempt has been lately made in England to have caoutchouc lights. But the boasted experiment proved an entire failure. The light, produced with great difficulty, was little better than *darkness.*



ACTION OF THE SEA ON THE LAND.

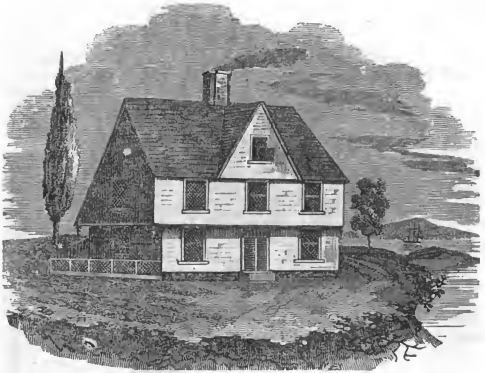
Every body knows that when a weight is whirled round, it acquires thereby a tendency to recede from the centre of its motion; which is called the centrifugal force. A stone whirled round in a sling is a common illustration; but a better, for our present purpose, will be a pail of water, suspended by a cord, and made to *spin round*, while the cord hangs perpendicularly. The surface of the water, instead of remaining horizontal, will become concave, as in the figure. The centrifugal force generates a tendency in *all* the water to leave the axis, and press towards the circumference; it is, therefore, urged against the pail, and forced up its sides, till the excess of height, and consequent increase of pressure downwards, just counterbalances its centrifugal force, and a *state of equilibrium* is attained. The experiment is a very easy and instructive one, and is admirably calculated to show how the *form of equilibrium* accommodates itself to varying circumstances. If, for example, we allow the rotation to cease by degrees, as it becomes slower we shall see the concavity of the water regularly diminish; the elevated outward portion will descend, and the depressed central rise, while all the time a perfectly *smooth* surface is maintained, till the rotation is exhausted, when the water resumes its horizontal state.

Suppose, then, a globe, of the size of the earth, at rest and covered with a uniform ocean, were to be set in rotation about a certain axis, at first very slowly, but by degrees more rapidly, till it turned round once in twenty-four hours; a centrifugal force would be thus generated, whose general tendency would be to urge the water at every point of the surface to *recede* from the *axis*. A rotation might, indeed, be conceived so swift as to *flirt* the whole ocean from the surface, like water from a mop. But this would require a far greater velocity than what we now speak of. In the case supposed, the *weight* of the water would still keep it on the earth: and the tendency to recede from the axis *could* only be satisfied, therefore, by the water leaving the poles, and flowing towards the equator; there heaping itself up in a ridge, just as the water in our pail accumulates against the side; and being retained in opposition to its weight, or natural tendency towards the centre, by the pressure thus caused. This, however, could not take place without laying dry the polar portions of the land in the form of immensely protuberant continents; and the difference of our supposed cases, therefore, is this:—in the former, a great equatorial continent and polar seas would be formed; in the latter, protuberant land would appear at the poles, and a zone of ocean be disposed around the equator. This would be the first or immediate effect. Let us now see what would afterwards happen, in the two cases, if things were allowed to take their natural course.

The sea is constantly beating on the land, grinding it down, and scattering its worn off particles and fragments, in the state of mud and pebbles, over its bed. Geological facts afford abundant proof that the existing continents have all of them undergone this process, even more than once, and been entirely torn in fragments, or reduced to powder, and submerged and reconstructed. Land, in this view of the subject, loses its attribute of fixity. As a mass it might hold together in opposition to forces which the water freely obeys; but in its state of successive or simultaneous degradation, when disseminated through the water, in the state of sand or mud, it is subject to all the impulses of that fluid. In the lapse of time, then, the protuberant land in both cases would be destroyed, and spread over the bottom of the ocean, filling up the lower parts, and tending continually to remodel the surface of the solid nucleus, in correspondence with the *form of equilibrium* in both cases. Thus, after a sufficient lapse of time, in the case of an earth at rest, the equatorial continent, thus forcibly constructed, would again be levelled and transferred to the polar excavations, and the spherical figure be so at length restored. In that of an earth in rotation, the polar protuberances would gradually be cut down and disappear, being transferred to the equator (as being *then* the *deepest sea*), till the earth would assume by degrees the form we observe it to have—that of a flattened or *oblate* ellipsoid.

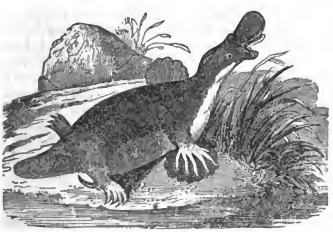
We are far from meaning here to trace the process *by which* the earth really assumed its actual form; all we intend is, to show that this is the form to which, under the condition of a rotation on its axis, it must *tend*; and which it would attain, even if originally and (so to speak) perversely constituted otherwise.

Antiquitates Americanæ.—A work with this title (American Antiquities) which has been several years in preparation, is now about to be published at Copenhagen, by the Society of Northern Antiquities in that city. It will consist of one volume quarto. It is a collection of the accounts extant, in ancient Icelandic and other Scandinavian MSS. relative to voyages to the northern coasts of America in the tenth and succeeding centuries, with the Latin and Danish versions, notes, maps, &c. It is supposed that Columbus had some knowledge of such early adventures, and was thus induced to undertake the voyage in 1492, when he made the West India Islands. It is said he had visited Iceland, several years before, when he probably heard of such previous voyages to Greenland and to the northern parts of the American Continent.



[View of the Allyn House, at Plymouth, Mass.]

In the biographical sketch of James Otis, in another part of this magazine, we promised to present a view of the old Allyn mansion house, formerly standing in Plymouth, the oldest town in New England. This very *antique* shaped building was the family dwelling of Mr. Allyn, the maternal ancestor of Mr. Otis. A brother of Mr. Otis, (father of H. G. Otis, now of Boston) bore the maternal family name; he also was an eminent patriot of the revolution, a man of great moral worth, and justly esteemed for long and useful public services. The building had the form of many dwelling-houses of that period: the second story jutting over the first. Two houses of this form were standing in Boston within a few years. But only one of them now remains. This house stood on the southeastern edge of the first small level piece of land above the rock on which the pilgrims in the May-flower landed December 22, 1620. The spot is memorable as the site of the first huts and dwelling-place of the pioneers of New England.



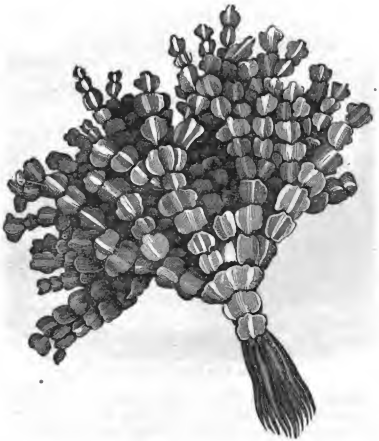
DUCK-BILLED ORNITHORYNCHUS.

Tribe Monotrema; Genus Echidna.—*Cuvier.*

Of all the mammiferous animals known, this is one of the most singular—having the bill of a duck, the body of an otter, the feet of a turtle, and the spurs of a cock. It seems to combine the properties of a quadruped, a bird, and a reptile. The body is covered with fur like a beaver; tail flat and short; legs short and ending in a web; fore feet naked; and the hind ones hairy. The eyes very small and sunken. The body is capable of a spherical shape. The animal is without teeth; its head small and conical, without external ears; five toes on a foot; spur moveable.

No animal has more excited the curiosity of naturalists. It is found in marshy places in New Holland. For some time the existence of such an animal was doubted, but it is no longer so.

The first newspaper published in Boston (or in any part of New England) was in 1704; the second was in 1720; and the third in 1721. When the revolution began, in 1775, there were four papers published in Boston; one in Portsmouth, one in Exeter; one in Newburyport, and one in Salem; one in Newport; one in New London, one in Hartford and one in New Haven. As early as 1720, a newspaper was published in Philadelphia. The whole number in the United States in 1775, has been said to be twenty-five. In 1800, there were only six newspapers printed in Boston; and not one of them a daily. There are now twenty; eight of them are published daily; and several of them semi-weekly. There are some others of recent origin, and perhaps of ephemeral existence. In all other parts of this State, there are thirty-four. They have also greatly increased in the other states within the last ten years.



ZOOPHYTES.—[Genus Corallina.]

They adhere to rocks, and are concretions by the polypi animals which inhabit them. The corallina is only the habitation of these creatures. The drawing here presented is of one called *corallina incrassata*. It is described as trifidly branched, with compressed plano-convex, wedge-shaped joints. This species is frequently cast up on the shores of the islands in the West Indies, especially Jamaica.

CHANGES OF RELIGIOUS SECTS.

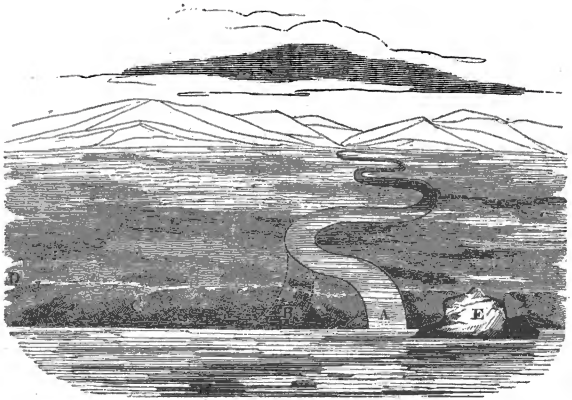
[By Lord Bacon.]

The greatest vicissitude of things amongst men is the vicissitude of sects and religions; for those orbs rule in men's minds most. The true religion is built upon the rock; the rest are tossed upon the waves of time. To speak therefore of the causes of new sects, and to give some counsel concerning them, as far as the weakness of human judgment can give stay to so great revolutions.

When the religion formerly received is rent by discords; and when the holiness of the professors of religion is decayed and full of scandal; and withal the times be stupid, ignorant, and barbarous, you may doubt the springing up of a new sect; if then also there should arise any extravagant and strange spirit to make himself author thereof; all which points held when Mahomet published his law. If a new sect have not two properties, fear it not, for it will not spread. The one is the supplanting, or the opposing of authority established; for nothing is more popular than that. The other is the giving license to pleasures and a voluptuous life. For as for speculative heresies, (such as were in ancient times the Arians, and now the Arminians) though they work mightily upon men's wits, yet they do not produce any great alterations in states; except it be by the help of civil occasions. There be three manner of plantations of new sects: by the power of signs and miracles; by the eloquence and wisdom of speech and persuasion; and by the sword. For martyrdoms, I reckon them amongst miracles; because they seem to exceed the strength of human nature: and I may do the like of superlative and admirable holiness of life. Surely there is no better way to stop the rising of new sects and schisms, than to reform abuses; to compound the smaller differences, to proceed mildly, and not with sanguinary persecutions; and rather to take off the principal authors, by winning and advancing them, than to enrage them by violence and bitterness.

Creed.—An attempt to cast the minds of others in the same mould as our own; which is about as likely to be successful as if a similar experiment were applied to the body. St. Hilary said 'it was a deplorable thing, that there were as many creeds as opinions among men. Since the Council of Nice, we have done nothing but make creeds. We make them arbitrarily, and explain them as arbitrarily.'

The whole number of journals, political and literary in Italy is 188. They are published at Milan, Venice, Turin, Genoa, Modena, Florence, Rome, Naples and Sicily.



CUT RIVER.

The Cut river, so called, is in the town of Marshfield, county of Plymouth. It is not a large river; generally from three to five rods in width; and it extends,(in a very circuitous course like most other rivers and creeks) upwards of three miles. Its general course is from west and northwest, to the east and southeast. Within fifty years, the bed of the river near the sea, and the outlet, (which is into the ocean about half way from the Gurnet, at the entrance of Plymouth harbor, and Scituate) has become changed and entirely filled up at the distance of eighty or one hundred rods. It is believed few such changes have been known in this country. There has been, indeed, a change of the beach and harbor of Chatham, on the back side of Cape Cod: but to what extent we have not been informed. The alteration both of the river and beach near the outlet may be stated with a good measure of accuracy, as follows;—for the distance of about five rods next to the mouth of the river, or its junction with the ocean, the river was made to take a more southerly direction, and the channel, or deepest part, was removed farther west than it had before been. The cause of this change is found in the sand of the beach, on the east and northeast of the river but adjoining it, being forced inwardly into the side of the river next it, by the waves of the ocean, in times of high winds and storms. The beach itself thus became gradually changed, being, in the course of several years, some rods more westerly than it had been. The bed or channel of the river (we speak of the lower part near the ocean) was therefore constantly changing, and being in or over a spot farther west than formerly. By this process, in about thirty years, the spot or meadow over which the river ran was quite different from its former course; and the sand of the beach occupied the old bed of the river. The moving of the sand of the beach also gradually filled up the old outlet to the ocean; and forced the river so to run as to find an outlet about seventy rods south of the ancient mouth. But after several years, the second mouth or outlet was also choked up; and the waters of the river overflowed some new lands and became stagnant. The fresh stream connecting with the creek is not indeed large; and as the salt water was prevented from flowing in the lands, so covered by water, were not very extensive; yet much injury was done by this stagnant water; and what grass there was could not be of much value, as it was very coarse.

In the mean time a canal was cut from this stagnant water to a creek in the north part of Duxbury, (which is adjoining the south part of Marshfield,) to let it off in that direction and have the water in motion. But this was but a partial remedy: and after a few years, in some unusual rise of water, a new outlet was formed; at first such as might be easily forded by the foot traveller; but now is from ten to twelve feet deep, and the tide flows in and out without difficulty. It is however at a distance from both the former mouths of the river.

The former bed of the river is now so filled up, that it is not to be distinguished from the other grounds in the vicinity; nor known except by those who were acquainted with the place forty-five or fifty years ago. The beach, between the rock E on the north, and the most southerly outlet, (made by washing in of the sand) at C, has also altered its position, and is some rods farther west than formerly. And the bed of the river and the outlet would probably have been more changed had not some high lands or hummocks to the south prevented the sand of the beach being driven farther west by the waves. A is the present mouth or outlet,—B old outlet, C, outlet twenty or twenty-five years ago, caused by washing in of sand from the beach, D, the hummocks west of the old beach.

THE AMERICAN INSTITUTE OF INSTRUCTION.

The seventh annual meeting of the American Institute of Instruction was held in Boston, in the State House, on Thursday the 25th of August, and continued for five days successively, except Sunday. This is a respectable association, composed of the teachers of youth, and other literary individuals, who are desirous of raising the character, both of our institutions and of our instructors of the rising generation. Its object is highly commendable: it is utility and improvement. And what can render a society more truly respectable and honorable? Education is the most important subject, except religion, which can interest the wise, the patriotic and the good. Education ought indeed to include religion; especially the great principles of religion, in which all sects agree. But, as there are various religious sects among men, it is not to be expected, nor is it proper, that any particular systems or modes of religion should be inculcated. Of the necessity of education, however, all admit. And to inquire in what way it should be conducted so as to produce the greatest benefits and blessings, is certainly highly important. The American Institute of Instruction, then, commends itself to the approbation and support of every intelligent and patriotic citizen. The meeting of teachers from different parts of the country, for an interchange of views, on the subject of education, and for inquiries and discussions as to the best system or mode of teaching the young, must be attended by extensively useful results. Improvement is the great character and desire of the present age, and that the old course or mode of teaching may be rendered, in some respects, more efficient, no one can doubt. What changes can be made, which will ensure more success, or more benefit, than by adhering to former systems, experience and facts must decide. And the meetings of the Institute are designed to furnish such facts and experience.

The subjects discussed, at the late meetings of the Institute were the following; but with what ability or effect we are unable to state, not having attended the meetings, nor seen any particular account of the reception the addresses met with from those who were present: on 'school discipline,' on 'the necessity and means of physical education,' on 'the house I live in:' (probably, on self-government, and self-denial:) on 'the incitements to intellectual and moral well-doing:' on 'the difficulties of a teacher:' on 'the education of the blind:' on 'the encouragements of the teacher:' on 'the moral influence of schools:' on 'thorough teaching:' on 'the legitimate purposes of education of the mind:' on 'the use of the Bible in schools:' on 'the peculiar duties of female teachers of common schools:' on 'the influence of the first seven years on the future character:' on 'the professional education of teachers:' on 'teaching rhetoric:' on 'the use of libraries in schools:' on 'the education of the senses.' Several other subjects were discussed: One of which was, 'what *further* can the Institute do for the cause of education;' and one 'whether it would be proper to provide by law for compelling all children to attend school.' Many female teachers attended the meetings.

EULOGY ON MR. MADISON.

Public notice was taken, September 27th, by the government and citizens of Boston, of the character and services of James Madison, who died in June last. A very large procession was formed, and moved from the State House through several streets in the centre of the city, to the Odeon, when an address was delivered by Hon. J. Q. Adams, late president of the United States. The audience was as intelligent as it was numerous; and we believe all were pleased and instructed by the very able address of Mr. Adams. It was such as might be justly expected from one whose mind is so richly stored with political knowledge and the treasures of general literature. Mr. Adams is one of the first, if not the very first, of the literary characters of the age. He referred to all the great incidents in the public life of Mr. Madison: and gave an impartial though flattering biography of that great statesman and patriot. Mr. Madison was not one of the *fathers* of the revolution, though he took an active and important part in the public councils of the nation, during the later years of the revolutionary war. His highest praise is found in reflecting on the leading and efficient part he took in forming and establishing the federal government in 1788 and 89. To say he was the father of the federal constitution, would perhaps be saying too much; but it is universally admitted that he was one of its most zealous and efficient advocates. Mr. Madison, we believe, was all that Mr. Adams said of him; an able statesman, a pure patriot, a sincere friend of the rights of man and of a popular government; and in his private life also he was correct, amiable and exemplary

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Among the most valuable American publications, for the last six months, are a volume of Sparks' Life of Washington, making the eleventh volume: volume five of Sparks' American Biography, containing the Life of Rev. John Eliot, usually called the apostle Eliot, on account of his long and useful services as a christian teacher of the Indians, soon after the settlement of Massachusetts by the English puritans: a volume of the Collections of the Massachusetts Historical Society: Didactics, social, political and literary, by R. Walsh: Life of Washington, by Paulding: a new and uniform edition of W. Irving's works, volume third and fourth. The Outcast and other poems, by S. G. Goodrich. The Four Gospels, with notes, one volume, 400 pp. published by Joseph Dowe. Sketches of Switzerland, by Cooper. Miscellanies, two volumes, by Miss Martineau. Orations and Speeches of Gov. Everett.

Books on geography and maps, have much increased within a few years. In no department of knowledge, perhaps, have there been greater additions made to former volumes and publications. Among the latest of these are Malte Brun's System of Universal Geography: Tanner's Atlas, (now in course of publication in this country:) a Comprehensive Atlas, published by Ticknor and Co. of Boston in 1835, and 'Encyclopædia of Geography,' now publishing, by Carey, Lea and Co. of Philadelphia, in three large volumes, of 600 pages each; the first volume is to appear early in October.

NOTES ON CIVIL ENGINEERING.

[By Lieut. Roswell Park, U. S. Eng'rs.]

The subject of civil engineering has become one of absorbing interest to the American public; and we shall doubtless be excused in offering some remarks concerning its utility and its application, with some brief sketches of its history, for the perusal of general readers.

It would not be exorbitant to assert that all the civilization of the world, and a large portion of its wealth, have been produced, providentially, by the intercourse of mankind with each other. Were each individual isolated from his race, he would lose all stimulus to the acquisition of wealth, knowledge, and refinement, and would probably sink almost to a level with the brute creation. Or were each family isolated from all others, the discoveries and improvements of any one of them, would be lost to all the rest; and the greatest inventions would probably have died with their authors. Power could not have existed; and wealth or knowledge would have been comparatively useless, even if attainable, without the influence of emulation and other social principles of our nature. These reflections exhibit the importance of *communication*, as an essential means of improving and perfecting mankind. In this respect, even war, so disastrous to individuals, has been of great service to the world at large; the victor and the vanquished alike instructed by each other, when once brought in contact. We trust however that the period is fast arriving, when nations will by peaceful intercourse, gain all the advantages of war without its inhuman sacrifices.

The ancients were not insensible to the importance of intercommunication, although their efforts to attain this object were far less successful than our own. We shall have occasion to speak more fully of their constructions in describing their roads, bridges and canals; many of which were not inferior to those of the same kind, built in modern times. Still they were not sufficiently general to accommodate the great portion of mankind; and transportation was effected only by a great expense of animal and human labor. It is the mighty power of steam alone which has served as it were to annihilate space, and bring distant places into close proximity, as regards the time of communicating between them. In this sense Washington is nearer to Boston now, than New York was twenty years ago.

The effect of these improvements on society is wonderful and grand. The traveller can see more of the world in one year now, than he could in three years, two generations since. Thousands travel at present who could afford neither time nor money by the old modes. We do not say that all who travel are benefitted: but doubtless this is one means of general improvement. A still greater, is the facility afforded of transmitting knowledge through the medium of the press, thus extending its usefulness. Coequal in importance with the extension of knowledge is the extension of commerce, and the saving of labor thereby. Thus the water power at Lowell is made useful to the whole United States; the wool of the North, and the cotton of the South, being carried thither and manufactured cheaper than they could have been where they grew. The labor of thousands is saved by such arrangements; and wealth, or the excess of production over consumption, is most rapidly increased.

Civil engineering, as a regular profession, is of modern origin; for in ancient times it seems to have been only a chance employment of some ingenious individual. The word *engineer*, (French, *ingenieur*,) is derived from the word *engine*; and this from the Latin *ingenium*, signifying *genius*, *wit*, *skill*. It was first applied to those persons who had the management of military engines or machines in battle; and afterwards extended to those officers who were charged with the construction of fortifications. It was not till about the year 1760 that the architects of roads, bridges, canals, &c. received the analogous appellation of civil engineers, in contradistinction from the military engineers before mentioned. In 1771, Mr. John Smeaton, the architect of the Eddystone Light-house, of Ramsgate Harbor, and of the Great Canal of Scotland, formed a Society of Civil Engineers, who met frequently for mutual improvement. This society was reorganised in 1793, by Messrs. Jessop, Mylne, Whitworth and Rennie; and among its results was the valuable publication of Mr. Smeaton's Reports. Since that time civil engineering has been recognised as a distinct and important profession.

The qualifications for this profession, we think have not yet been sufficiently appreciated. To give an idea of their variety and extent, we will suppose that a new route of communication is proposed; for instance, a rail road. If by a hasty *reconnoisance*, the engineer deems it feasible, it then becomes his duty to examine it in a financial point of view, and estimate whether it will pay a satisfactory interest on the investment. This requires a knowledge of commerce and also of the statistics of the region adjacent to the proposed route. It is only by a minute estimate of the number of passengers, and the quantity of merchandise of every kind which would be transported on the road, that this primary question can be decided. The next step is to ascertain the exact topography of the route or different routes proposed, in order to locate the road. This requires the practice of surveying and levelling. And to prepare the maps and plans by which the ground is represented, and the project studied, will test his knowledge of mathematical drawing, founded on the principles of descriptive geometry. He ought also to be acquainted with geology in order to describe the nature of the route, and to judge by the surface what is the structure of the mass below; whether rocky or earthy, hard or soft,—as on this will greatly depend the expense of the grading. He would also require the aid of mineralogy to recognise the various substances discovered in the excavations, which may be of commercial value.

His road being located, he would now require the assistance of the mechanic arts to construct it. He would have to employ masons, carpenters, and smiths; and in order to direct and examine their work, he ought to be practically acquainted with masonry, carpentry and smithery. He should also

be able to select the best materials for constructions, which with other reasons would require at least a general acquaintance with chemistry. And in applying the mechanic arts, in constructing machines, in fact at every step of his progress, he would need a thorough acquaintance with the science of mechanics; depending on all the branches of mathematics, on algebra, geometry, trigonometry, &c. Finally, to prepare the estimates and keep all the accounts of so extensive a work supposes a thorough acquaintance with book-keeping, and monied transactions; which with tact or *savoir faire* in the selection of agents, and in business intercourse with men of every description, completes our long list of qualifications. Without saying that a perfect knowledge of all these subjects is necessary to make a competent engineer, we insist that he will find them all useful, and that without understanding them he will often meet with difficulties, which scientific attainments combined with practical skill would easily remove.

The prospects of civil engineering as a profession were never brighter than at the present day. The importance of improved means of communication is now pretty generally understood; and a spirit of enterprise awakened, which no slight causes of error or failure can dishearten or destroy. There are works enough already projected to occupy the present generation; and we believe that hardly a single instance can be found of a qualified engineer destitute of employment. Nor will the labor cease here. The increase of wealth and population must continually require new routes, where the encouragement is not yet sufficient; until our whole country and indeed all the world shall be intersected by railroads or by still better means of communication; numerous in proportion to their increasing importance.

The remainder of this article will be devoted to brief descriptions of some of the most interesting constructions of ancient and modern times, in civil engineering.

The earliest means of communication, we may suppose were common roads or paths, accidentally located and rudely constructed. There remain however no traces nor descriptions of any roads, at least of any system of roads in the more ancient nations, down to Greece inclusive.

The Romans, in the days of their glory, carried the art of roadmaking to perfection, though at an incredible expense. The charge of the public ways was intrusted only to men of the highest dignity. Augustus himself took charge of the roads around Rome, and appointed two officers of pretorian rank to pave them; each of whom was attended by two lictors as a mark of distinction. For communicating with conquered nations, or sending forth their disciplined armies, it became highly important to have good roads; and hence arose a *system* of highways, all meeting in Rome, and radiating from thence to all parts of Italy. These were also called *military* roads, because intended for the use of the armies; and were named from the person who projected them, or the place to which they led. Among these roads of Rome were the Appian, Flaminian, Aurelian, Salarian, Ostian, Praenestine, Tiburtine, Triumphal, Portuensian, Claudian, Cassian, Nomentan, Labican, Latin, Laurentine and Ardean. It is estimated that the Romans constructed more than 14,000 miles of roads in Italy alone.

The first road which the Romans *paved* was the *Appian Way*, (Via Appia,) so called because commenced by Appius Claudius Cæcus the censor, 313 years before the Christian era. It led from Rome to Capua, across the Pontine marshes; and was afterwards extended to Brundusium; its length being variously stated at from 300 to 350 miles. It was called the Queen of Roads, (Regina Viarum,) and is celebrated by the poet Horace, who journeyed over it. It was about fourteen feet wide, and formed of three strata; the lowest of which was rubble masonry; the next, a layer of gravel; and over this was laid a pavement of flint or freestone, of from one foot to five feet in dimension all exactly fitted together so that it seemed but one stone; the whole forming a stone crust at least three feet thick. The best proof of its excellent workmanship is that extensive portions of it still exist uninjured, after a lapse of more than 2000 years.

The *Flaminian Way*, was begun by the censor Flaminius, 220 B. C. It led from the Campus Martius, without the walls of Rome, by Cagli, to Ariminum, (the modern town of Rimini,) on the Gulf of Venice; a distance of 190 miles. It is celebrated for its bridges over the rivers Nar and Metaurus; both of stupendous height. This road passed under the Appenines by the Vespasian tunnel.

The *Aurelian Way* led from the Aurelian gate of Rome, along the coast of Etruria to Milan, and thence over the Alps, for the passage of the Roman legions.

The statement that Hannibal made a road through the rocks of the Alps, by first heating them, and then pouring on vinegar, has been called in question. But M. Gauthey, a French engineer, relates that in cutting through the rock to make a canal near the village of Egel, a peasant offered to break up the rock for him; and this he actually did, by having a dozen peasant girls collect faggots and make a fire around the rock, till it was very hot; then pouring on water, the rock cracked in pieces with a loud noise, and was easily removed. The rock was that called by the French *Pierre-fondante*, and was very hard. He tried the same process on slate, but without effect.

The Romans laid out their roads very straight and direct, without much regarding the obstacles in their way. Hence they had to build very high bridges, to quarry vast rocks, and sometimes to perforate mountains by tunnels. Such was the Vespasian tunnel already mentioned. Another subterranean road, which still exists, was the *Crypta Puteolana*, or *Grotto of Pausilipa*. It leads from Naples to Puteoli, now Pozzuoli, under the hill Pausilippo. It is nearly a mile long, from fifteen to thirty feet wide, and from fifteen to ninety feet high; having been enlarged at different times to obtain stone, particularly by Alphonso I. about the year 1450. It was cut through the solid rock, and is lighted by two wells or ventilators, besides a larger one nearly midway of its length. Since 1822, the Austrian troops have constructed a road

over the hill Pausilippo, by which this subterranean passage is avoided.

We have no account of any bridges in the ancient empires of Western Asia; and we know that armies passed the rivers of that warm region by swimming. In Egypt there was only one river, the Nile, over which bridges could not be useful, on account of its inundations. And the rivers of Greece are so small that its few bridges were probably slightly built, of wood; and none of them remain. Our account of ancient bridges is therefore confined to those of the Romans. From the extension of their city, a bridge across the Tibur became a desideratum at an early period; and the number was afterwards enlarged to seven bridges, which are all worthy of notice.

1. The one first erected, and which stood lowest on the river, was the *Pons Sublicius*, so called because built on piles, in Latin *subliciæ*. It led from Mount Aventine to Mount Janiculum, and was originally constructed of wood, by Ancus Martius, who dedicated it with great solemnity to the Roman priests, 670 B. C. It was rebuilt of stone by Æmilius Lepidus, thirty or forty years B. C. and then called *Pons Æmilius*. Being much injured by the overflowing of the river, it was rebuilt of white marble by Antoninus Pius A. D. 150, and then called *Pons Marmoratus*, from the Latin *marmor*, marble. It had seven arches, and was about 400 feet long, and twenty-eight feet wide.

2. Next above this was the *Pons Senatorius*, so called because the Senate passed over it in solemn procession, when the Sibylline books were to be consulted in times of public danger. It led from Janiculum to the Forum and to Mount Palatine; from which it was also called *Pons Palatinus*. It was begun by M. Fulvius, and finished 150 years B. C. being the oldest *stone* bridge built at Rome. Being in ruins, it was rebuilt by Pope Gregory XIII. A. D. 1575; and one arch of it is still standing, under the name of *Ponte Rotto*.

3. Next above this were two bridges, connecting the island Tiberina with the two shores. That on the east side was called *Pons Fabricius*, because built by the consul Fabricius, when censor of public roads, 275 B. C. It led from the island to the capitol; and consisted of two arches, which are still standing. Being decorated at the west and with a statue having four heads, it is now called *Ponte di Quatro Capi*.

The bridge on the west side, leading from the island to Mount Janiculum, was called *Pons Cestius*, because built by Cestius Gallus, about the time of the Christian era. It consisted of one arch of eighty feet span, and was about fifty feet wide. It is now called *Ponte Santo Bartolomeo*, from St. Bartholomew, the modern name of the island.

4. Above these was the *Pons Janiculensis*, so named from the adjacent hill. It led from the Campus Martius, or field of Mars, to Janiculum; and appears to have been built by the Emperor Aurelius, Antoninus Pius, about the same time that he rebuilt the Pons Sublicius. It has been many times thrown down; and having been last rebuilt by Pope Sextus IV. A. D. 1478, is now named from him *Ponte Sisto*.

5. Next was the *Pons Triumphalis*, so called because when a *triumph* was decreed to a victorious general, the procession passed over it to the capitol. It led from the Campus Martius to the Vatican hill, from which it was also called *Pons Vaticanus*. Remains of it are still to be seen.

6. Proceeding up the Tibur, we come to the *Pons Ælius*, built by the Emperor Adrian, A. D. 135; and named by him after his grandfather, Ælius Adrianus. It led from the Campus Martius to the splendid mausoleum which he erected for himself, called Moles Adriani. It had eight piers, on which Pope Clement IX. placed as many colossal columns, each supporting a bronze statue. It is said to have once had a bronze roof, supported by forty-two columns. It is now called *Ponte Sant' Angelo*, and is the most beautiful bridge in Rome.

7. There was one more bridge up the Tibur, about a mile without the walls of Rome, on the Flaminian Way. It was called *Pons Milvius*, and was built by Æmilius Scaurus, about A. D. 100. It still exists under the name of *Ponte Molie*.

The most wonderful bridge of antiquity was that built by the Emperor Trajan, across the river Danube, near Warhel in Hungary, A. D. 120. The object of this bridge was to afford communications with the legions which were waging war against the Dacians. Apollodorus Damas of Damascus was the architect; and according to the accounts it was a work attesting much skill and science. It consisted of twenty stone arches, each of 170 feet span and 75 feet rise, springing from piers 45 feet above the ordinary surface of the water. The piers were 60 feet broad, of hewn stone; and the whole bridge was nearly a mile long, and 150 feet high from the foundation. The current being deep and rapid, caused great difficulties in building it. A general platform was laid over the whole foundation, by sinking large boats loaded with masonry, and filling in between them with bags of the same material; on which the piers were erected. This bridge was destroyed by the Emperor Adrian, probably through jealousy of Trajan's fame, but ostensibly for the purpose of preventing the Dacians in their turn from making an irruption into the Roman territory. Some ruins of it still remain.

The care of the Roman bridges was originally committed to the priests, who were hence called *Pontifices*, literally bridgemakers. But when the priests became too much occupied with other functions, the bridges were placed in charge of the censors and curators of roads, and like these were afterwards the care of the emperors in person.

But the bridges of ancient Rome could by no means compare with those of modern London, of which there are six; and which we shall next describe, beginning with those lowest down the Thames.

1. *London bridge* is first in place, and also the oldest of these bridges, having been first built with timber about A. D. 1000; and rebuilt of the same material in 1163. The stone bridge which stood until lately, called the *old London bridge*, was begun in the year 1176, under Henry II. and finished in the reign of John, A. D. 1209; Peter of

Colchester, a priest, being the architect. This bridge, which was in the old Gothic style, had twenty small locks or arches, and was 940 feet long, 44 feet high, and 47 feet wide between the parapets. The piers had enormous starlings projecting at each end, and were from 15 to 35 feet thick, so that the water courses occupied only 545 feet, or at low water only 204 feet of the breadth; which caused a rapid and dangerous current by the rush of the tides. There were formerly houses on each side of the bridge; but in 1758 they were torn down, and £80,000 expended in repairs. Notwithstanding this expenditure, the old bridge was disliked on account of its uncouth appearance, its obstructing the current, &c; so that it was finally determined to rebuild it. The plan submitted by Mr. John Rennie was adopted, and after his death the work was entrusted to his sons, Messrs. John and George Rennie, by whom it was constructed, A. D. 1824 to 1831. It is built principally of Scotch granite, and consists of five elliptical arches of the following dimensions.

Centre arch,	150 feet span,	29 1-2 feet rise.		
Adjacent arches,	140 "	"	28 1-2 "	"
Extreme arches,	130 "	"	25 "	"

The piers of the central arch are each 24 feet thick; the other piers 22; and the abutments each 74 feet; making a total length of 930 feet. The width of the carriage way is 36 feet; and of each side walk 10 feet, making a total width of 56 feet. It was founded by means of coffer dams, as being more safe than the method by caissons; and is probably the most elegant stone bridge in the world. Its cost was £500,000,=$2,220,000.

2. Next above is the *Southwark bridge*, of cast iron, and the most splendid of its kind in the world. It communicates between Queen Street or Cheapside, London, and the borough of Southwark; and was built by Mr. Rennie in the years 1814 to 1820, through the influence and exertions of Mr. Wyatt. It stands on granite piers, and consists of three arches; the span of the middle one being 210 feet; its rise or sagitta 24 feet; and the height of the iron frame work at the vertex 6 feet.

3. *Blackfriars' bridge* next above, was built by Mr. Robert Mylne, between 1760 and 1771. It is 995 feet long and 42 feet 6 inches wide. It has nine elliptical arches, the spans of which, beginning at the centre arc 100, 98, 93, 83, and 70 feet respectively. This bridge is highest in the middle; its surface forming the segment of a very large circle. It is guarded on each side by an elegant stone balustrade; and over each pier is an open recess or balcony, supported by two Ionic columns, which however have been criticised as too light and delicate for that position. The ends of the bridge are rounded off by quadrants of circles, making the access easy and agreeable. The cost of this bridge was £152,840. Its materials unfortunately were perishable, and it is already beginning to decay.

4. *Waterloo bridge* was projected by Mr. George Dodd in 1805; but was finally designed and executed by Mr. Rennie; receiving its name in 1816, from that of the celebrated battle-field. It is second only to the new London bridge in elegance; having nine semielliptical arches, each of 120 feet span and 35 feet rise; and the clear height above the high water of spring tides is 30 feet. The abutments are 40 feet thick at the bases, and 30 feet at the springing of the arches. They have *plying places* or stairs for watermen on each side, formed by circular wings projecting at right angles to the bridge, with archways leading to the roadway. The piers are 30 feet broad at the base, 20 at the impost of the arches, and 87 feet long. The salient ends of the piers are finished with two engaged columns of the Grecian Doric order, supporting an entablature which forms a recess of the footpath. The whole bridge is surmounted by a balustrade, with a frieze and cornice of the same order. The carriage way is 28 feet wide, and the foot paths each 7 feet, making a total width of 42 feet. The surface is perfectly level; and the rain water is drained off by circular openings in the centre of each pier, the iron pipes with gratings over them entering the river just beneath the low water mark. The approaches to the bridge are 70 feet wide, and are carried over a series of semicircular brick arches, each of 16 feet span. In the Surrey approach, on the south side, are 39 of these arches, besides one elliptic arch, making a length of 766 feet; while the Strand approach is 310 feet; and the bridge between the abutments 1380 feet; making a total length of 2456 feet, at a cost of not less than £1,000,000.

5. *Westminster bridge* was constructed by Mr. Labalye, between 1738 and 1747. It is 1220 feet long, and 44 feet wide, including a side walk of 7 feet on each side. It has 13 large arches, besides two small ones at the ends. The central arch has 76 feet span; the others diminish successively by 4 feet down to 52 feet span; and the small arches at the ends have a span of 25 feet. The middle piers are each 17 feet thick; and each contains 3000 cubic feet, or nearly 260 tons of stone. The other piers diminish successively one foot each, and they all present a salient right angle to the stream. The arches are semicircular, and spring from about two feet above low water mark; leaving a free water way of 870 feet. The footway is adorned with semioctagonal towers over every pier, which afford a commodious shelter from the rain. Just as the bridge was completed, some gravel diggers were allowed to excavate so near to one of the piers, that it sunk so much as to necessitate the taking of it down, with the two adjacent arches, and reconstructing it. On account of this delay, the bridge was not opened till the year 1750. The piers were laid in close or *box caissons*, and fears are already entertained concerning their durability. The cost of this bridge was £218,000.

6. The *Vauxhall bridge*, the highest up the Thames of those in London, was erected by Mr. James Walker. It consists of nine arches of equal span, constructed of *cast iron;* resting upon piers that were originally designed for a stone bridge.

It is interesting to notice the successive improvements in the style and dimensions of the stone bridges in London, from the old London bridge, the first of all, to the modern London bridge, the latest of all. The span of the greatest arch in the former was not more than 30 or 40 feet; in the Westminster 76 feet; in Blackfriars' 100 feet; in the Water-

loo 120 feet, and in the present London bridge 150 feet; with equal advances in the execution.

The most wonderful bridge ever yet erected is that across the straits of Menai, connecting Wales with the island of Anglesea, near Bangor. It is a suspension bridge of *wrought iron*, completed by Mr. Telford in 1832. The principal arch is 580 feet long between the points of suspension, and 100 feet high in the clear above the surface of the water; so that vessels of 150 tons burden may sail under it, with all their rigging standing. There are also four stone arches on the west side, and three on the east, each of 50 feet span, extending to the shores. Each abutment of stone is 60 feet by 42 1-2 at highwater level. But the main chains rest on two separate piers, or pyramids of octagonal form, 70 feet by 50 at the base, rising 43 feet above the roadway; the ends of the chains passing over them. These chains are formed of straight bars of iron, united by coupling or shackle bolts; and are covered by flannel saturated with rosin and beeswax, then wound around with iron wire, to protect them from the weather. They are 16 in number, in four ranges; two ranges in the middle, and one on each side; the four chains of each range being placed one above another. The sum of the sections of all the chains is 192 square inches. They pass over the summits of the pyramids on rollers, and are secured to the shores, by being attached to vast blocks of stone. There are two carriage ways of 12 feet each, and a foot-path of 4 feet between. The roadway is suspended by vertical iron rods at intervals of five feet along the chains; and the sides are of framed iron work, extending 7 feet above and 5 below the chains. The bridge is secured laterally by diagonal chains from the opposite sides of the pyramids, crossing in the centre. Its weight between the points of suspension is 489 tons, and the chains are calculated of sufficient strength to support 2016 tons. It is estimated that the contraction and expansion of the chains may produce a rise and fall of four or five inches; which however can do no harm. The cost of this bridge was estimated at £70,000.

The bridge called the *Colossus*, over the Schuylkill, near the water works of Philadelphia, has the longest wooden arch in the world. It is a single arch of 340 feet span and a sagitta or rise of only 20 feet, corresponding to a radius of 732 feet. It has stone abutments 50 feet wide, and the bridge is 35 feet wide at the centre. Its framing is a series of kingposts and braces, standing on triple ribs at foot; and the height of this framing at the vertex is only 7 feet. The ribs are of timber, sawed through the heart to insure its firmness, and the pieces are kept separate by iron nuts intervening, so that each piece may be taken out separately, and they will not cause each other to decay. This bridge was finished in 1813 by Mr. Wernwag, who patented its construction. It cost $150,000.

Canals may claim for their origin a remote antiquity. The canal between the Red Sea and the river Nile was begun 616 years before the Christian era, by Necho, the son of Psammeticus, who prosecuted the work until 120,000 men perished upon it, and then left it. It was continued by Darius Hystaspes, 521 B. C. but again abandoned, because he was told that the waters of the Red Sea were so much higher than the Nile, that if admitted by the canal they would overflow all Egypt; or if not, they would spoil the waters of the Nile for drinking. The canal however was completed by Ptolemy Philadelphus, 280 B. C. It is uncertain whether the canal communicated with the sea by sluices with gates, or whether a barrier of earth was left between, over which boats might possibly be drawn by means of machinery. This canal was said to be from 100 to 170 feet wide, and navigable for vessels of 10 or 12 feet draught. It must have filled up within 350 years after, for it was re-excavated by the Roman emperor Trajan, who extended it to the city of Hieropolis. It was again cleared out by the caliph Omar, A. D. 640, in order to transport wheat from Egypt to Medina, where there was then a famine. After all this labor, scarcely a vestige of it remains, nor was it of much service; since owing to the shallowness of the Red Sea, and tediousness of its navigation, the merchandise of the East was landed farther south, and transported across to the Nile by land.

The principal modern improvement in canals is the invention of locks. These were first used in Holland, on the river Leeh near Utrecht as early as 1371. The earliest locks in Italy appear to have been at Milan, constructed by Visconti in 1420. It is certain that they were built in 1481 on the river Brenta, at Stra, by the two brothers Dominico. They were first introduced into France in 1605, on the canal of Briare. And the *Misterton Sas*, in the river Idle, constructed about 1630, was probably the first lock in England. The French were a century in advance of the English in introducing canal navigation; as the canal of Briare, uniting the rivers Seine and Loire was begun in 1605, and completed in 1642; while the Sankey Brook canal, the first for navigation in England, was not begun till 1755, nor completed till 1760.

In 1758, the Duke of Bridgewater, having obtained an act for making Worseley brook navigable, conceived the better project of a canal passing the river Irwell by an aqueduct, and thus making a water communication from his coal mines to the town of Manchester, on one level, and without following any stream. Having obtained power to locate it through private lands on condition of paying therefor, the Duke devoted all his time and resources to this great undertaking, limiting his personal expenses to £400 a year; and although he died in 1772, before its completion, its success was then assured; and the Duke of Bridgewater's canal will perpetuate his memory as the Father of English canal navigation. Commencing at Runcorn Gap, this canal rises from the river Mersey 82 feet, by ten locks, and extends to the city of Manchester. It runs into Worseley coal mines, where there are now 16 miles of it under ground. The aqueduct over the river Irwell, was probably the first in England. The locks at Runcorn Gap were completed in 1772, and the original canal from Worseley mines to Manchester in 1776. By adopting a single level, the expense of aqueducts, tunnels, cuts and embankments was much increased.

The canal was 40 miles long, 52 feet wide at the surface, and 5 feet deep. The locks were about 80 feet long and 15 feet wide. There are three principal aqueducts, and a tunnel passing under Manchester, from which coals are hoisted up to supply the town. Its engineer was Mr. James Brindley, a man of great genius, and fertile in expedients. When asked before a committee of Parliament what use could be made of the rivers in England, he replied, 'To feed navigable canals;' so great was his passion for this favorite means of improvement.

The *Caledonian Canal*, perhaps the most interesting in the world, is navigable by frigates of 32 guns; being 120 feet wide at surface, 40 or 50 feet at bottom, and 20 feet deep. It serves to connect a chain of lakes or lochs across the southern border of Scotland, from the Murray Frith on the eastern coast, to Cantyre on the western. It passes through Lochs Beauly, Doughfour, Ness, Oich, Lochy, and Eil, to Loch Linnhe, which opens into the Mull of Cantyre. By making 22 miles of canal, deepening the rivers Lochy and Oich, and a part of Loch Ness, it forms an inland navigation across Scotland of 250 miles, which is less than half as far as the northern voyage around the Island. There are twenty-seven locks, each 180 feet long and 40 feet wide. At Fort Augustus near Loch Ness, the canal is cut through the glacis, and with its five connected locks rising behind it, presents a grand combination of civil and military engineering, amid romantic mountain scenery. To save rock cutting in descending from Loch Oich, the whole area of Loch Lochy, formerly 22 feet lower, was raised 12 feet in height, being 10 miles long and one mile broad. Before entering Loch Eil, the canal descends 64 feet by eight connected locks, founded on inverted arches with cast iron gates, and fancifully called *Neptune's Staircase*. Since its construction, more than a million of forest trees have been planted along its borders. The cost of this canal was £912,000. It was first surveyed by Mr. James Watt in 1773; and begun by Mr. Thomas Telford its engineer, in 1820.

At the present day canals are nearly superseded by railroads, owing to their capacity for greater speed in travelling, and for continued use in all seasons of the year. It may be interesting to trace the successive improvements by which results so wonderful have at length been obtained. Railroads composed of massive blocks of stone were used by the Egyptians in drawing stone for the pyramids; and in Cyrene in Africa, long lines of such railways may yet be traced for many leagues, along the ruins of ancient cities, now forming a desert. Their use however was forgotten in after ages; and they were revived as a modern invention. Wooden railways are stated to have been used in the mines of Germany and for crossing marshes in England as early as the year 1600. They were first described in 1676, in the life of Lord Keeper North. The wooden rails soon wearing away were shod by laying another rail over them, or doubling the rails. The load for one horse was 42 cwt. on these roads, and only 17 cwt. on the common roads. At length some parts of the rails most exposed to wear, came to be covered with thin plates of wrought iron, fastened down with nails, and thus probably suggested the idea of iron tracks. It is anonymously stated that cast iron rails were first tried in 1738, but the place where is not mentioned. Iron wheels were first used about the year 1754 at a stone quarry near Bath. The earliest authenticated cast iron road was at Colebrookdale in Shropshire, commenced in 1767, at the suggestion of Mr. Reynolds. The rails were *tram* or *plate* rails, having a *flange* or *ledge* on the exterior side, to keep the wheels from running off. Stone *chairs* or supports for the rails were first introduced by Mr. Barnes in 1797, on a road near Newcastle. Edge rails were first constructed by Mr. W. Jessop in 1789, for the public railroad at Loughborough. They are found to be equally strong with less material, and collect less dust, as they have no flange, this being transferred to the wheel. Wrought iron rails were first tried by Mr. C. Nixon in 1805, at Wallbottle Colliery near Newcastle; but their use was very limited until improved by Mr. Birkinshaw in 1820. It appears that wrought iron rails are cheaper than those of cast iron, on account of their being equally strong when much lighter. Stationary steam engines were first used to draw cars up an inclined plane at Birtley Fell, in 1808 by Mr. S. Cooke. Locomotive engines were suggested by the late Dr. Robinson as early as 1759; but it was not until 1802 that Messrs. Trevithick and Vivian first patented a carriage of this kind; having it appears borrowed or rather stolen the invention from Mr. Oliver Evans of Philadelphia. Their carriage resembled a common stage coach in form; having the boiler and cylinder attached in rear of the hinder axle. But locomotives though gradually improved, did not attain the requisite degree of lightness, power, and economy of fuel to secure general confidence, until the great trial on the Liverpool and Manchester road in October, 1829, when Mr. Robert Stephenson's engine the Rocket, weighing 4 tons 5 cwt. drew a load of 12 tons 15 cwt. including the tender, or an effective load of at least 9 tons, at the average rate of 14 miles in one hour, consuming 114 gallons of water and 217 lbs. of coke in the same time.

We must conclude this brief article with a description of the Liverpool and Manchester railroad, the most celebrated in the world. It is 32 miles long, and was opened September 15, 1830; having required four years to construct it, at a total cost of £750,000 exclusive of fixtures. This extraordinary cost was owing to the peculiar difficulties and circumstances of the road. It commences at Liverpool in the company's yard in Wapping, and proceeds by a deep cut 46 feet wide, with stores over it, till it reaches the tunnel. This is 22 feet wide and 16 feet high, including 5 feet from the floor to the impost of the semicircular arch; and its total length is 6750 feet or nearly a mile and a quarter. Its interior is lighted with gas, and white-washed to increase the reflection of the light. Another is to be constructed, one mile and a half long, for conveying passengers directly to the city. The tunnel first mentioned, opens into a spacious area, cut 40 feet deep into the solid rock. Proceeding towards Manchester, there is a deep cut through

marl near Wavertree Lane, and another 70 feet deep in solid rock through Olive Mount. Beyond this is the Roby embankment, two miles long, from 15 to 45 feet high, and from 60 to 135 feet broad at the base. At Whiston and Sutton are inclined planes having a descent of one foot in ninety-six, which are perceived by the diminished speed of the trains, and sometimes have caused them to stop. Next we reach Parr Moss, a marsh 20 feet deep, where the embankment first laid on, sank quite to the bottom, and was raised until it has now become solid. The railroad next passes over Sankey valley and canal, by a magnificent viaduct of nine brick arches faced with stone, each of 50 feet span and raising the road 70 feet above the water of the canal. Still farther on is the great Kenyon excavation, from which were dug 800,000 cubic yards of clay and sand. The road has still to pass over Chat Moss, from 10 to 35 feet deep, and the Barton embankment, a mile long, before reaching Manchester. The Planet engine with her tender has been through from Liverpool to Manchester in 40 minutes, or at the rate of 48 miles per hour. Eight or ten engines are kept at work, each making four trips per day; and 200 men are required to manage them and keep them in order. The average daily transportation in 1834 was about 1020 passengers and 640 tons of goods. The dividends for that year were nine per cent. The business is conducted by twelve Directors, who report semi-annually. Thus great as was the expenditure, it is amply justified; and the example of this work has already benefitted the whole civilized world.

THE FAITH OF MANY PROPHETS.

[Extract from Miss Martineau.]

Havilah said, I have sometimes questioned within myself when wars for the faith should cease. It cannot be that they shall continue forever: yet if a time of universal peace and holiness should come, men will marvel that the Book tells of slaughter, and of spoils, and of slavery. How also shall men cease to hate one another and to seek vengeance and profit for themselves, if they read that Mohammed himself sought revenge, and gratified himself with many pleasures which others may not desire?

These questions are wise, replied Eber; and my reply is, that in the days of peace and purity which shall at length arrive, the religion of Christ shall be more esteemed than that of Mohammed. Men shall then be more wise than to be satisfied with the pleasures which Mohammed allowed, and in which he indulged. They will find all that is pure in his religion made more pure in the Gospel; and all that is true in the one, set forth more clearly in the other. Many may rejoice that through the Book they learned the name of Christ; but they will cast aside the Book when they have found in the Gospel a better record of the faith. They shall then discern that though Mohammed was wise, and though he was permitted by God to display the eternal truth to some who would otherwise have worshipped many Gods, he was not among the appointed prophets; and that it is impious to call him greater than Jesus, the last and holiest of the messengers of God.

Yet behold, said Aza, how the faith he taught has spread from land to land. Wherever the sword has been carried in the name of the Prophet, that name has been received.

In the wisdom of God has it been so ordered, replied Eber, because the faith of Mohammed is better than that of idolaters; and while it overthrows idols, it prepares a way for the faith of Christ. This is, I doubt not, the purpose for which it has been ordained to spread so far: but the work of God is not finished till the name of Christ is exalted beyond every other earthly name.

The time once was, when from yonder gate idolatrous priests came forth from the city, with the name of a false god upon their lips and a blind cruelty in their hearts. Then the cries of mothers, whose children were about to be sacrificed, mingled with the music of the worship; and the little ones, who knew not what should befall them, wrung the hearts of those who bore them, with their smiles.

Then, cried Havilah, was there mourning among the angels who beheld; then they wept for the guilt and the sorrows of men.

To-day, continued Eber, we have seen a troop go forth thence to war for the faith they held. They cried on the name of the true God: but they went forth to destroy the works of his hand; to shed the blood which he warmed with life; to seize upon wealth which is not theirs, and to spread anguish and fear among those who have done them no injury. A time shall come when the will of the Father of men shall be better understood.

What shall then be done?

Then, said Eber, shall that gate stand wide for men to go to and fro, as if they were indeed the guardian angels one of another. Instead of the warlike trumpet, there shall be the holier music of praise to God, and joy among men. The ways where the war-horses have this day left their track shall be trodden by the feet of those who go forth, not thirsting for the blood of men, but rather for the glory of God; not praying for vengeance, but rather for mercy on their enemies. Instead of fear, they shall cause hope to spring up around them wherever they turn: instead of inflicting anguish, they shall offer peace; and shall give liberty to the soul, instead of bondage to the limbs. Where they are present, tears shall be dried up, groans shall be hushed, and sorrow and sighing shall flee away.

Nay, said Aza, then would yonder gate be the entrance of Paradise: for what greater good has Paradise than that which thou hast said?

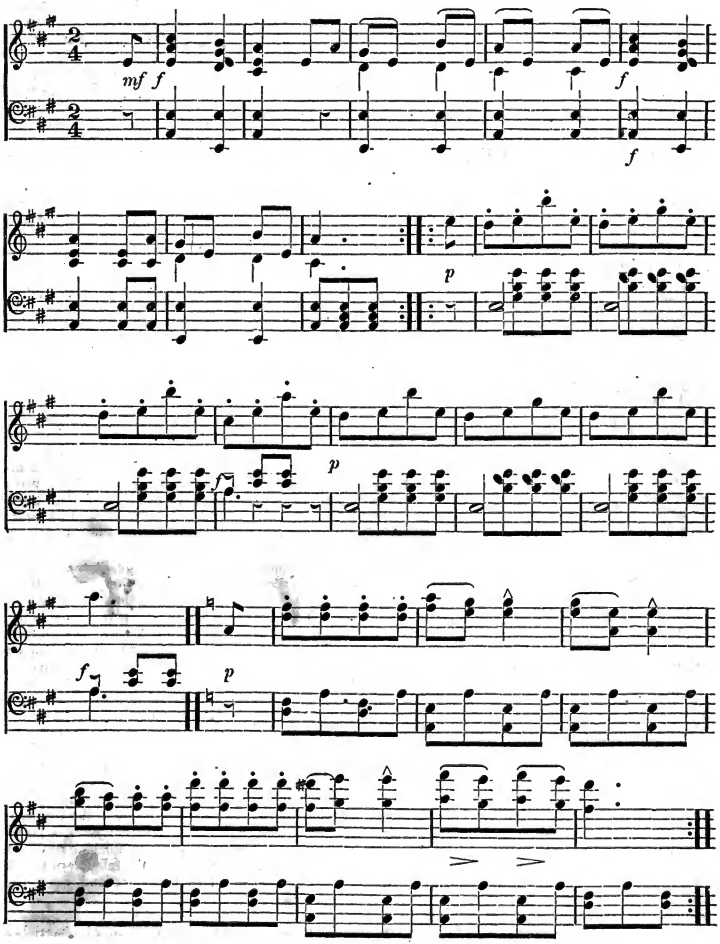
Havilah answered, There remains over all in Paradise 'the superabundant recompense' of which Mohammed spoke, and for which Eber hopes as well as I.

For the joy which cannot be conceived, said Eber, I wait till it shall be revealed in the presence of God. But it is my belief, that all the peace which the spirit of man can now imagine or desire might be possessed on earth, if the religion of Christ everywhere prevailed in the heart and sanctified the life.

He who has riches has friends; he who has riches has eminence; he who has riches is even a sage.

GALOPADE.

ARRANGED FOR THE AMERICAN MAGAZINE, BY CH: ZEUNER



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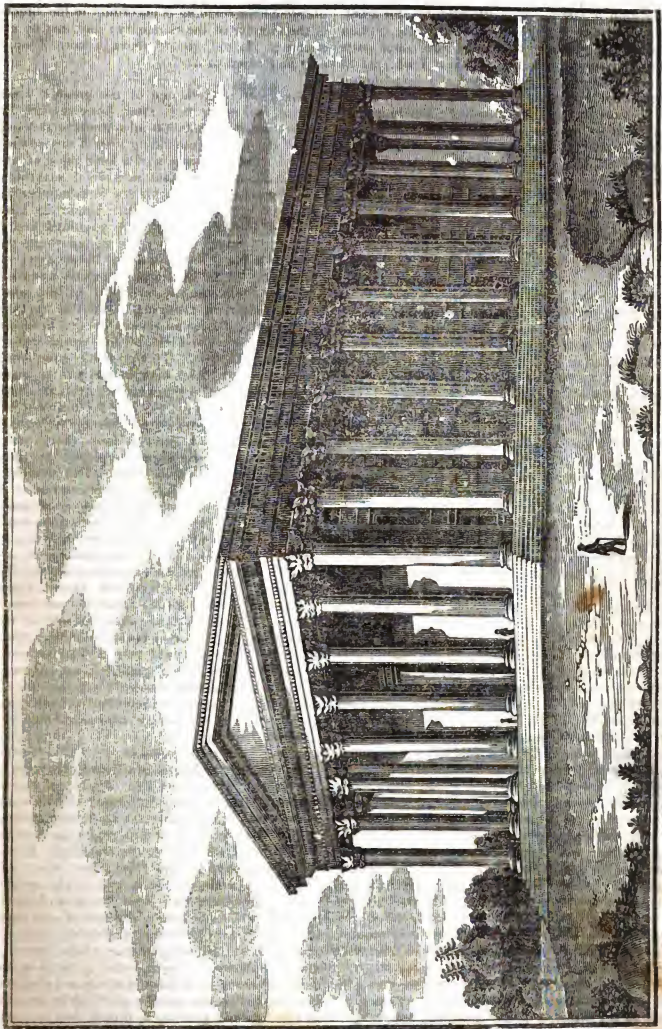


[View of Girard College, Philadelphia.]

GIRARD COLLEGE.

In an account of the Girard Bank, in a former number of the Magazine, there was reference to the provision made in the will of Mr. Girard, who died within a few years, in Philadelphia, for a college in that city, for the benefit of white orphan children, who belong to that place, and other parts of Pennsylvania, to the city of New York, and to the city of New Orleans. They may be admitted at the age of six years Two millions of dollars were bequeathed for the necessary buildings, for the support of proper instructers, and the tuition and maintenance of the pupils. The college is now being erected. It is situated near the centre of a square, (which Mr. Girard owned) formed by High and Chestnut Streets, and Eleventh and Twelfth streets; and is intended to accommodate three hundred scholars, besides the requisite number of teachers. The will provided, that the building should be one hundred and ten feet, by one hundred and sixty, three stories high, each story to be fifteen feet; and to be fire-proof. No wood to be used, except for doors, windows and shutters. In each story four rooms, fifty feet square, and spacious entries and stairs. Many other particulars might be given as to the apartments of the college, but it would be unnecessary. The square is to be enclosed by a solid wall, ten feet high, and two places of entrance, one from Chestnut street, and one from High street.

It is also ordered in the will of Mr. Girard, that the college be provided with suitable furniture, books, and philosophical apparatus: and then, that the income of the unexpended part of the two millions, shall be applied to maintain the institution, so that the education may be without expense to the pupils. The health, comfort, clothing, and morals, as well as literary instruction of the scholars are to be provided for and attended to: But no direction is given as to any religious instruction. The French and Spanish languages are to be taught, and the Latin and Greek are not prohibited. A desire is also expressed, that proper means should be used to make the pupils attached to republican institutions and to the sacred rights of conscience. It is permitted the students to remain in the college, if their conduct be good, till the age of eighteen; and then to be bound out by the Mayor and Aldermen of the city, to suitable occupations, as agriculture, navigation, arts, mechanical trades, manufactures. The particular organization of the college is left to the Mayor, Aldermen and citizens of Philadelphia; who are directed, however, to see that the expenses of the institution are less than the annual income of the sum devoted to its support. The donor has enjoined, that no ecclesiastic, missionary or minister of any sect whatever have any share in the instruction or government of the college. He has also directed, that further appropriations be made, either for other buildings, or support of teachers and pupils, as the condition of the institution may require, from the residuary fund (mentioned in his will) which is a large sum.

A view of this college or institution we now present, as it is nearly completed; and is, at once, an honor to the memory of the generous and enlightened founder, and an ornament and blessing to Philadelphia; which already abounds with useful public buildings, erected by the benevolence and munificence of corporations or individuals. It is presumed the building is according to the directions of the founder of the Seminary: and that by a reference to his will, quoted above, a correct opinion may be formed of it.

Constantinople is one of the greatest cities in Europe, and ranks next after London and Paris. It contains about 500,000 inhabitants, and occupies one of the most commanding sites of any city in the world. It is the mistress of a long chain of straits connecting the two great seas which separate Europe from Asia: and forms the link between those two great parts of the earth. Under its ancient name of Byzantium, it was a populous and rich commercial city. Constantine added to its glory, when he made it the capital of his empire, in the 4th century of the Christian era. And when it was separated from the western part of the ancient Roman empire, it continued to be the metropolis of the East. It was an asylum for the learned and the refined, when the rest of the world was overrun with barbarians. Though it was conquered by the successors of Mahomet, as was all the country for a great extent in the west of Asia and the east of Europe, it retained much of its former splendor and trade. It is calculated that £8,000,000 sterling are poured in annually from the provinces; and immense numbers are employed by government, which is strictly despotic. The situation of this city is as beautiful as it is commodious. It is at the point where the Bosphorus communicates with the sea of Marmora; and rises on seven hills along the shores of the Bosphorus, embosomed in groves, from amid which numerous gilded domes ascend to a great height and afford a magnificent spectacle. Still, the streets are narrow, ill-paved and crowded, the houses generally are low and gloomy. These are composed entirely of wood, and the city is frequently visited with very destructive fires. It is supposed that it rises entire from its ashes in every fifteen years. Some of the public buildings, however, are truly magnificent. The mosque of St. Sophia is accounted the finest in the world. It was originally a church, erected by the Emperor Justinian.

To protect the *Morus Multicaulis* from the cold. 'Cut down yearly the *Mo. Multi.* in the same manner willows are in a *Salictum:* viz. a few inches above the soil, and cover the trunk remaining with dead leaves; in three or four years, the roots being stout enough, will not require covering. From the buds preserved on the plants, fine hardy shoots come forth, and give large and lively leaves for feeding the silkworms. This mode is followed in Manilla and China; not on account of cold so much as to keep the Morus in a *shrubby* state, which renders more easy the gathering of the leaves. It is said the mulberry is there planted in fields as Indian corn is here; in the fall the plants are deprived of their branches, the number of which is continually increasing, and growing 5, 6 or 8 feet in a season.

NINEVEH.

Change and decay happen to all the works of man. The proudest cities and the loftiest monuments of human skill, in the long lapse of ages, are converted into mere heaps of ruins. The tower of Babel erected in the third or fourth generation after the deluge, as a shelter from another flood, or as a castle for Nimrod, who aimed to rule the whole human family, has long since fallen, by the all-devouring hand of time; and not a vestige of the mighty pile remains. The language of man was confounded, and a dispersion soon followed into different and distant parts of the earth. The scheme of the ambitious Nimrod to rule and to tyrannize over his fellow men was opposed: and, in the spirit of freedom and independence, natural to mankind, they chose to seek new habitations, where they could enjoy self-government without the restraints of a despot. But the greater portion of our race still lingered in the country afterwards the northern part of Chaldea, and the southern part of Armenia; which is usually considered as the cradle of mankind. This territory extends from the Caucassian mountains to the Persian gulf, and includes the rivers Tigris, Euphrates, &c. The population of Nineveh was the greatest for three or four centuries in that part of the earth; and these were the earliest monuments of human labor and skill. Egypt dates from a later period, by two hundred years, though in succeeding ages it was equally populous and prosperous as the more ancient Chaldea.

Babylon, 'the glory of the Chaldees', was in latitude 33, nearly in the same parallel with Jerusalem, and about 400 miles east. Nineveh was in about 37, on the Tigris, opposite the modern Mousul. This most ancient city was probably founded by Nimrod, called Ninus and Belus, by profane writers. According to our common version of the bible, Moses speaks of Ashur as the founder; but the original rather implies, that he went away from Babel into the country, afterwards called Assyria, and built Nineveh and other cities. It is true that Babylon is generally supposed to be built near the spot where the tower of Babel was erected. This might be, and yet Babylon not made a large city till a long period after. Nineveh is generally supposed far more ancient. Both were populous places in very remote times; yet Nineveh was probably the oldest.

Nineveh was a city of three days' journey, according to the book of Jonah; that is, nearly fifty miles in circumference, and twenty in length. Its breadth was probably not great in proportion. When Jonah was sent to warn the degenerate people, that it would be destroyed, which was in the reign of Joash, king of Israel, about 850 before our era, and 150 years after Solomon, it contained (probably), 600,000 souls; about a fifth part young children. The preaching of Jonah aroused the prince and the people, and a fast was kept, and the inhabitants mourned for their sins before God; and he was graciously pleased to suspend the calamity denounced against them by the prophet.

The accounts of the walls and towers of Nineveh are perhaps somewhat exaggerated; but from the appearance of its ruins, as well as from the most ancient records, it was very extensive and populous. There was a double wall round the city, which in some parts was 100 feet high, and sufficiently wide for three chariots to go abreast. Some towers on the walls were 200 feet in height. The prophet Nahum refers to Nineveh, as a place full of chariots, and of armed men in scarlet. 'The chariots rage in the streets, they jostle one against another in the broad way. Of the spoil of gold and silver, and of rich furniture, there was no end.'—'But she has become empty and waste; the heart melteth, and the face gathers blackness.' It is described as 'a bloody city, full of lies and robberies; yet of the noise of the whip, and the noise of the rattling of the wheels, and of the prancing of the horses and the jumping of the chariots. Therefore they were made vile, and laid waste, and the nations of the earth bemoaned her.' 'Long since has Nineveh become a desolation, and deserted as a wilderness.'

After several depredations on this city by ancient nations, it was wholly destroyed in the time of the Roman emperor Adrian, about A. D. 100. Nothing now remains but fragments and ruins: 'the flocks lie down in the midst of her; the cormorant and the bittern lodge in the lintels, and desolation is in all the thresholds.' Thus passeth away the glory of the world; thus the law of change and decay reigns over all the works of human art and grandeur!

But degenerate as the people of Nineveh were, they repented at the warning voice of the prophet; though future generations became corrupt and vicious. What can be said for the wayward and ill-tempered Jonah? He knew Jehovah was gracious and willing to pardon the penitent; and he had rather the people should be punished, than his warning should not be fulfilled. He was angry that the people reformed and found favor with heaven. If he was not as bad as Balaam, who was capable of being bribed, he was destitute of the true spirit of religion: he would rather that the lives of men should be destroyed (for his honor) than to be saved, and he called a mistaken monitor.

Amazons.—The ancient stories of a nation of warlike women, in Asia, between the Euxine and Caspian seas, are now little credited. The tradition was, that they suffered no men to reside among them; and had only occasional connexion with them, to preserve their community. Their male children were sent away to their fathers, and they brought up the females to war. It is pretended they were formidable in very early times, even before the siege of Troy. Their queen, however, was conquered by Hercules. One of their queens, at a later period, is said to have visited Alexander of Macedon. The stories of their exploits receive at present very little regard. But in barbarous countries, there were many bold and warlike females; and hence the fictitious relations of their great numbers and achievements.

Some of the first visitors of South America, from Europe, three centuries ago, pretended there was a nation of Amazons in that country; but later and more accurate writers have shown that such accounts were wholly unfounded. A few instances of female heroism have given occasion to these unnatural stories.

THE PLEASURES AND ADVANTAGES OF THE DEAF.

The deaf person has more time than others for studying his own mind, for reflection and self-examination. He is deprived of some benefit, it is true, in losing familiar conversation. But he thus escapes hearing much folly, much that is trifling, and much which serves to dissipate the mind. He has the benefit of reflection, while others are employed on what is trifling and unimproving. He is not pained by the scandal of the day; nor disgusted by its idle gossip. And the occasional conversation of the wise and learned he can enjoy in small companies, where neither rudeness nor fashion interfere to prevent it.

As the mind is ever active, when not occupied by light and vain discourse, it will be inclined to rely on its own resources. It will seek to know itself; its capacity, its powers, its nature. It will learn its tendency, and its aptitude for improvement: its capability for indefinite progress. Every one may and ought to have time for reflection and meditation. But how many are prevented from allowing themselves such seasons by mixing constantly with the crowd, and seeking amusement in the light conversation of the multitude! A knowledge of the world is certainly important; but it is not obtained without much reflection; nor is it to be compared to the knowledge of one's own mind, with all its powers. Both may be beneficial, to a certain extent. But the knowledge of one's-self is far the most beneficial and important.

When the deaf have been listening for some time to the conversation of a large party, and have been able to hear very little, and find they are also giving annoyance and trouble to their friends, by often asking, 'what did you say, sir, and what did that lady say, who has been just speaking to you; and who was she speaking of, who is so silly and vain,' &c. it is a relief to themselves, and, no doubt to their friends, to retire and occupy themselves by reading a good book, or walking abroad for meditation and reflection. They have a good apology for retiring, and for conversing with themselves; and if well informed and well disposed, they will find both employment and improvement in meditation. Retirement and occasional solitude with such motives, are not likely to produce misanthropy, nor to weaken our feelings in favor of humanity. And we should be on our guard against such a spirit or tendency. On the other hand, there is just cause to believe, that our own minds may be improved by the meditation and discipline, which will naturally take place.

We do not recommend solitude to every one, especially to the young, though occasional retirement for short periods may be useful; for the social feelings are necessary to be cultivated; and they cannot be strengthened by long retirement from the usual intercourse with our fellow-men. But, when the providence of God has deprived us of one means of profiting by the conversation of friends, we have new motives for studying our own powers and capacities and biasses; and by a little self-denial, we may find that we are not necessarily subjected to any loss, but are in some respects privileged from the rest of the world. We are often saved from frivolity, and sometimes from vanity and impertinence; and if the resources of our own mind cannot afford matter for useful reflection and moral improvement, the defect must be charged to ourselves; it is because we have neglected to acquire information and to lay up stores for a mental repast: and the sooner and more diligently we strive to remedy this defect, the more certain and the greater will be our personal enjoyments.

PAST AND PRESENT.

[From 'Blackwood's Magazine.']

I saw a little merry maiden,
With laughing eye and sunny hair,
And foot as free as mountain fairy,
And heart and spirit light as air;

And hand and fancy active ever,
Devising, doing, striving still:
Defeated oft—despairing never—
Up springing strong in hope and will.

I saw her bounding in her gladness,
On a wild heath, at dewy morn,
Weaving a glist'ning wild-rose garland,
With clusters from the scented thorn.

I saw her singing at her needle,
And fast and well the work went on,
Till song and fingers stopt together—
Not for sad thought of fair days gone;

But, that fairer still, a vision
Rose to the happy creature's sight,
And to a fairy world of fancy
The mind was gone, more swift than light.

I saw her smiling in her slumber,
The blissful day-dream not gone by:
I saw her weep; but bosom sunshine
Broke out before the tear was dry.

I saw her (troops of friends encircling)
Read kind good-will in many a face,
With a bright glance that seemed exulting,
'Oh happy world! oh pleasant place!'

I saw a dim-eyed, dark-browed woman,
Declining in the vale of years:
Pale streaks among the dull locks gleaming,
That shaded cheeks deep worn with tears.

I saw her wand'ring in her loneness
Among the tombs at even-tide,
When Autumn's winds with hollow murmurs
Among funereal branches sighed.

I saw the sere leaves falling round her,
When o'er the dead those dark boughs wave,
heard a voice—I caught a murmur,
'Oh weary world! oh peaceful grave!'

I thought upon that merry maiden—
I looked upon that woman lone;
That form so buoyant, *this* so drooping,
(O time! O change!) were one,—my own.

GHOSTS.—There is more meaning and philosophy than at first appears in the answer of the poet Coleridge to a lady, who asked him if he believed in ghosts. 'O no, madam, I have seen too many to *believe* in them.' He had sense enough to know that his senses had been often deceived.

When we recollect the numerous creeds and formulas of faith, we should be taught humility, candor and toleration.

THE ORANG OTANG, OR WILD MAN OF THE WOODS.
Simia Satyrus of Linneus; Pithecus Satyrus of Cuvier.

This strange animal is of the ape kind, but differing widely, especially when in an erect posture, from the common apes and monkies. There are somewhat different species of the Orang, at least in form, but the principal characteristics are the same. It is found in the unsettled parts of Borneo, Cochin China, Sumatra, and several of the larger islands of the Indian Archipelago. It resembles man in external form, when erect, more than any other animal, except perhaps the Chimpanse, or Troglodytes of Africa. The Orang is seldom seen when of full growth; for he shuns the abodes of men. This animal has sometimes been found to be seven and a half feet high, when in an erect posture. Sometimes the Orang has been confounded with the Troglodytes; but they are now considered quite a different species; and to belong more correctly to the ape family. The Orang is also found in Asia, and the Asiatic islands; and the Troglodytes in Africa. They are not found without the tropics.

Whether this animal has more cunning or intelligence than others of the same genus, or of many other families of animals, is not known. There is no evidence that they have. There is an account of the features and form of one killed on the coasts of Sumatra, about ten years ago, and which is as follows; its height was seven and a half feet. Some of the teeth were three inches long. The back very broad, and covered with coarse, long hair. Its gait was slovenly, and it waddled from side to side. The countenance was in a great measure like that of a human being. When wounded, he discovered symptoms of pain, much as a man does. He was not killed till he was shot five times. After being mortally wounded and fell, he wrested a spear from one of the men, who was just about to stab him with it, and broke it in pieces. His eyes were small, and his ears very similar to that of man. The nose was very flat, having scarcely any projection from the face: and the mouth large and wide. There were numerous wrinkles on the face, and they are not supposed, particularly to indicate old age. The hands and feet are long; the former resemble those of the human species.

They appear to have great strength; and there are stories of their seizing and carrying off children. The account of their watching and conveying females to retired places are however not well authenticated. When first seen they excited great terror, and many unfounded stories no doubt, were circulated of their feats and cruelty. Their erect posture is not supposed to be natural or common. They are evidently quadrupeds; they walk or stand erect only when so taught by man, except occasionally. They pass with great agility from limb to limb, and from tree to tree, till they are hid in the depth of the forests. As they have not the power of speech, we may suppose they have no more claims to intelligence than other animals. It is from their external form only, that they have been classed as next below the human family.

SEVERE WINTERS.

During the last ten centuries. By M. Arago.

In 806, the Rhone was frozen over; the cold was from 18 to 20 centigrade degrees below zero. In 1133, the Po was frozen from Cremona to the sea. In 1234, loaded waggons crossed the Adriatic, in front of Venice. In 1305, all the rivers in France were frozen over. In 1324, it was passable from Denmark to Lubec and Dantzic on the ice. In 1334, all the rivers of Provence and Italy were frozen; at Paris the frost lasted two months and twenty days. In 1468, it was necessary to break up the wine in Flanders with hatchets, in order to serve it out to the soldiers. In 1544, the same became necessary in France. In 1594, the sea was frozen from Marseilles to Venice. In 1667, the Seine was entirely frozen over. In 1767, the Seine was frozen for thirty-five successive days. In 1709, the Adriatic and the Mediterranean, from Marseilles to Genoa, were frozen. In 1716, shops were erected on the Thames; and the Seine was wholly frozen over in 1742, 1744, 1766, 1767, 1776, 1788, and 1829.

Effect of water on cast-iron.—Some large brass and cast-iron guns, which sunk with the royal George in 1782, are now in the Tower of London. Those of brass are little affected by their long immersion in the ocean, but those of cast-iron are changed through their whole substance. They resemble plumbago, and may be easily cut with a knife. Cast-iron pipes attached to a pumping apparatus, in a mine of 140 fathoms, in England, have been so softened in five years as scarcely to hold together.

Non Sequitur.—A grammatical *Adam*, being a relative without an antecedent; something which is *apropos* to nothing, and comes after, without following *from*. It is taking the effect for the cause; or, as is commonly said, 'putting the cart before the horse.' A conceited man said, with a wise look, 'that rivers often run through large cities.'

RURAL LIFE NEAR MOUNT LEBANON.

As soon as the rains begin, a new spring commences: the walls of the terraces which support the cultivated slopes of Lebanon, and the fertile hills of the environs of Bairent, are so covered with vegetation in a few days, that the ground is entirely hidden under the moss, the grass, the lianes, and the flowers; green barley carpets the fields, which were only dust when we arrived. The mulberry trees, with their second leaves, form, round the houses, forests impenetrable to the sun. One sees, here and there, the tops of houses scattered on the plain, which rise from this ocean of verdure; and the Greek and Syrian women, in their rich and brilliant costume, are like queens who take the air on the pavilions of their gardens. Little foot-paths, formed in the sand, lead from house to house, and from hill to hill, across this continuation of gardens, which reach from the sea to the feet of Lebanon. In following them, one finds, all at once, at the entrance of these small houses, the most delicious scenes of patriarchal life; the women and young girls crouched under the mulberry and fig trees at their doors, work rich carpets, in wool, of the most brilliant and contrasted colors; others, fastening the ends of their unwound silks to distant trees, wind them up, walking slowly and singing, from tree to tree: the men, on the contrary, walk backwards, from tree to tree, and are occupied in making pieces of silk and throwing the shuttle, which others throw back to them. The children are lying in cradles of rushes, or on mats in the shade; some are suspended to the orange branches; the large Syrian sheep with immense tails, that trail after them on the ground, too heavy to stir, are lying in holes, dug on purpose for them in the cool earth, before the door; one or two handsome goats, with long ears, hanging down like our spaniels, and sometimes a cow, complete the rural picture. The master's horse is always there, also, covered with his splendid trappings, and ready to be mounted. He forms a part of the family, and seems to take an interest in all that is done, and all that is said around him—his physiognomy grows animated like a human countenance: when a stranger appears and speaks to him, he dresses up his ears, raises his lips, extends his nostrils, bends his head to the wind, and snuffs at the unknown who flatters him; his soft but deep and pensive eyes sparkle like fire under the long and handsome tuft of mane on his forehead. The Arab, Greek and Syrian laboring families, who inhabit these houses at the foot of Lebanon, have nothing wild or barbarous about them. Better informed than the peasants of our provinces, they can all read, and understand two languages, the Arabic and Greek; they are mild, quiet, industrious and sober; occupied all the week with farming or their silk, they repose on Sunday, and, with their families, attend the long and showy service of the Greek or Syriac church; then return home to a somewhat richer repast than on the week days. The women and young girls, dressed in their richest costume, and their hair plaited, and thickly strewn with orange blossoms, purple wall-flowers, and carnations, remain seated on their mats at the doors, with their neighbors and friends.

The men and young boys go on the Sundays, and seat themselves, their only amusement, on the mats spread at the foot of some great sycamore, not far from a fountain; they remain there immovable the whole day, relating marvellous histories, and drinking from time to time a cup of coffee or of fresh water; others go upon the tops of the hills, and you see them there peacefully grouped under their vines, or their olive trees, and seeming to enjoy with delight the view of the sea, the lucidity of the sky, the music of the birds, and all those delicious instincts of pure and unsophisticated man, which our populations have exchanged for the noisy intoxication of taverns, and the fumes of debauch. Never were finer scenes of the creation peopled and animated by purer and finer impressions. Nature is truly here a perpetual hymn to the goodness of the Creator; and no false note, no spectacle of misery and vice disturbs the ravishing harmony of this hymn. Men, women, birds, animals, trees, mountains, sea, sky, climate, all is fine, all is pure, all is splendid and religious.—*Lamartine's Pilgrimage.*

THE FORCE OF HABIT.

On conversing with J. G., I found that he had been twenty-one years in the country, and was still pennyless,—the poor servant of the other Englishman, who was scarcely less poor than himself. His fondness for ardent spirits, he informed me, had kept him thus poor; and he could trace to this source all his lapses and all his misfortunes. He assured me in our conversation, that he had forsworn the further use of spirits. I told him of a strength greater than his own, and this I entreated him to implore. He was much affected by a prayer in which I proposed he should join me in his tilt: he kept a standing posture when I commenced, but the poor fellow soon sunk upon his knees, and before the conclusion of my prayer on his behalf he was weeping like a child. It will give some idea of the prevailing use of spirits in this island, and of the consequent discouragement which the minister is doomed to experience, if I mention that, notwithstanding all which I had said against the use of this intoxicating stimulant, in all which he had heartily acquiesced, and, bringing the test of his own melancholy experience, had declared voluntarily that he had left it off, he yet offered to myself, on my rising from my knees, what is called 'a morning,' from a little keg which he drew from under his straw bed; and, on my reminding him, when about to help himself, that he had engaged to break off this habit, he excused himself by saying he had made a reservation for the use of the remaining contents of that keg.—*Journal of a Missionary.*

A kitchen is the burial-place of a man's health and fortune. 'What a small kitchen,' said a lady, after viewing a handsome mansion. 'It is by having a small kitchen,' said the owner, 'that I am able to live in a large house.'

Eating.—For the morning repast, a little is enough: for dinner, enough is a little: and at night, a little is too much.

COMPOSITION OF ORGANIZED STRUCTURES; AND SIMILARITY OF THE DIAMOND AND CHARCOAL.

[From 'Donovan's Chemistry.']

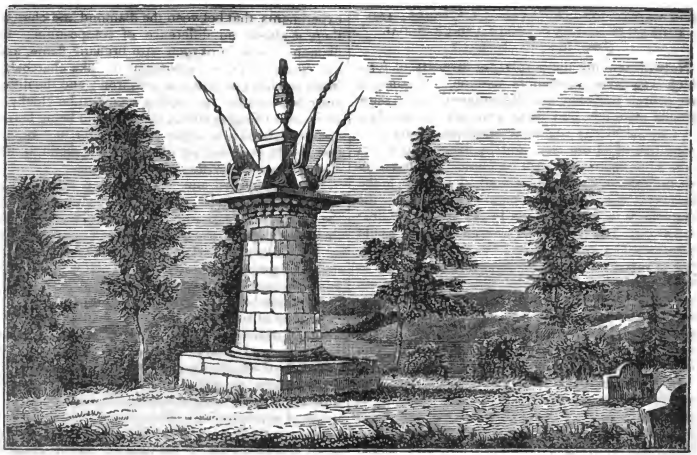
Notwithstanding the perplexing diversity of form which vegetable substances assume, experiments have proved that they are all composed of the same ultimate materials, and these very few in number. We may select any vegetable structure as the representative of all the rest: and, by examining others in the same manner, it will be found that they present the same results. The method by which the component elements are separated is simple; the vegetable is merely exposed to the action of fire: not an open fire, for in this way all its parts would be dissipated or burned away; but in a vessel calculated to retain its principles in such a manner as to permit their being brought under examination. Green wood will be a good instance. Take a common gun barrel, the touch-hole of which is stopped; push a small cylinder of green wood down to the breech, and place that end horizontally in a good coal fire. As the wood is heated, the water, which is the chief ingredient of its juices, distils over, and drops from the open end of tube. In proportion as the water distils, from being insipid, it becomes sour. Shortly after, a gas issues out of the tube, and may be collected by tying a moist bladder, the common air being well pressed out of it, round the mouth of the tube. If, when the gas ceases to issue, the contents of the tube be examined, the piece of wood will be found altered into a black, dry, light, sonorous mass, retaining, however, its texture, though much reduced in size. It is, in short, converted into charcoal, or, in chemical language, carbon; and, if its weight be added to that of the gas, the mere water, and the sour water, the result will be the original weight of the wood without loss; hence these are all the ingredients which composed the wood. By multiplying experiments on other vegetable structures, we learn, that all of them, however complicated, when made to undergo the ordeal of heat in confined vessels, resolve themselves, like wood, into the four elements, oxygen, hydrogen, carbon, and azote; the latter being in such small quantity as to be barely discoverable. These, again, by combining among themselves, produce the compounds above described, but the four ingredients mentioned are what are called the ultimate elements of all vegetable matter, notwithstanding its apparent diversity. A striking proof of the extraordinary differences of appearance which the same body may assume, and also of the intrinsic worthlessness of some of those objects on which society sets the highest value, occurs in the instance of the substance under consideration. Every one knows the enormous price at which diamonds of good quality and size are estimated. The celebrated regent diamond, which was set in the handle of the late Emperor Napoleon's sword of state, is now valued at £260,000, although only 1½ ounce, and was originally purchased for £20,400 by Thomas Pitt, grandfather of the great Earl of Chatham, while Governor of Madras. Yet this precious ornament is neither more nor less than a piece of charcoal; and, surprising as it may appear to those hitherto unacquainted with the fact, it is well proved by numerous experiments, that between the diamond and charcoal there is almost no difference of composition; the diamond burns in oxygen with brilliant flame, and, like charcoal, forms carbonic acid; like charcoal, it forms steel by combination with iron; and the difference between the two bodies seems to be chiefly in their state of aggregation, the diamond being harder and crystalized; it is also a little purer in composition. The pure portion of charcoal is distinguished among chemists by the name of carbon.

Having acquired some acquaintance with the vast variety of form under which the objects constituting the vegetable world appear and the simplicity of their composition, the next subject of contemplation is the animated part of the creation,—the most interesting and stupendous of all. How much more admirable and surprising, must the structure of a living animal appear, when it is known that it is composed of but a few elements, such as have been formerly described: little more than the meanest vegetable, and fewer than many minerals. The materials of which animals are composed being nearly the same, as those which compose plants, the difference is in their relative quantity, and in the mode of combination. The combustible substance, phosphorus, has been detected, in small quantity, in some vegetables, as in the onion; but it exists in large quantities in the bones of animals: not in the state of phosphorus, as commonly seen, but disguised by combination with oxygen in the state of an acid, and this acid combined with lime. The bones of animals, then, consist chiefly of lime and phosphoric acid; at least these ingredients compose their earthly basis, as it is called; but it is impregnated with animal matter that adds greatly to their strength, toughness, and solidity. The other element which exists largely in animal matter is azote: it is also a constituent part of several kinds of vegetable matter; and it is singular, that the same azote, which adds so much to the nutritiousness and flavor of animal food, renders vegetable matter disgusting to the taste and poisonous. The chief substances, then, which enter largely into animal matter, are oxygen, hydrogen, azote, carbon, phosphorus and lime. We find some other kinds of matter, as certain acids and metals, but in quantity so small as not to affect the truth of the above statement, that the foregoing six ingredients constitute the great bulk of the animal fabric.

GERMANS ARE GREAT WRITERS.—An Augsburg paper states, that on a moderate calculation 10,000.000 volumes are annually printed in Germany; and that probably there are now living upwards of 50,000 Germans authors who have written one or more books. The value of books annually printed in that country is between five and six millions dollars.

The moral courage which will face obloquy in a good cause, is a much rarer virtue than the physical valor, which will confront death in a bad one.

Gossamer consists of the fine threads of the flying spider covered with dew.



A View of the Cadets' Monument at West Point.

The history of the Military Academy of the United States, at West Point, on Hudson river, is generally known. West Point was a strongly fortified place in the war of the revolution; and for the two or three last years of that period was the head-quarters of General Washington. The military establishments, at that place, has been kept up for about thirty years: and the object is to educate young men for the army, or to fit them for the business of engineering. To the latter pursuits many of them have devoted themselves, for several years past. There are able teachers in the institution, not only in the ancient and modern languages, but in surveying, geometry, and the higher branches of mathematics, and thus qualifying the students to be scientific engineers. The number of cadets is usually from 200 to 250. But, as we gave a full account of the Institution in a former number of the magazine, (January, 1835) it cannot be necessary now to speak particularly of its regulations, teachers, or its statistics. It is only required at present, to say a word respecting the Cadets' Monument, a view of which is here given.

It stands on a summit near the Hudson river, and on the German flats, so called, about three-fourths of a mile above the Point. It was erected in the year 1817, soon after the sudden death of one of the cadets then belonging to the Academy, by the name of Lowe, who was killed by the accidental discharge of an eighteen pounder, whilst he was in the act of ramming down the cartridge. The original and chief design of the monument was to commemorate the awful death of this young man, and a cadet in the Institution. Before the monument was completed, another cadet, of the name of M'Intire, died while in the Academy, after a very short illness. He was much esteemed; and his sudden death excited a good deal of sympathy in the corps. His name was also inscribed on the monument, with that of Lowe, who was killed some time before. It was also determined by the cadets, then at the Academy, and by whose generous donations the monument was erected, to have the name of any one of the pupils who might die there inscribed on it. The monument is very neat in appearance, and its execution is appropriate to the design for which it is intended. And the work is honorable to the feelings of the young men who projected and subscribed for its erection. It excites the particular notice of the traveller, in passing up and down this noble river; though there are numerous other objects, both natural and artificial, to attract attention. It is of white marble.

Early Snow.—There was a snow storm in the vicinity of Albany, New York, on the fourth and fifth of October; which continued for more than twelve hours; and it is computed that as much as two feet fell; but it soon melted on coming in contact with the warm earth. We hope this is not a true indication of the severity of the coming winter.

Metallic Tin—was first discovered in the United States, a few years ago, by Professor Hitchcock. It was found in the town of Goshen, and county of Hampshire, and State of Massachusetts. It corresponds with the genuine English tin; and also resembles the tin ore of Bohemia. The quantity found was small; and whether further discoveries have been made, we have not learnt.

It is said, the worms which feed on the white and Chinese mulberry make the most delicate silk, but those which feed on the black, make the strongest.

THE ARGUMENT FROM NATURE FOR THE WISDOM AND GOODNESS OF GOD.

[From Chalmers's 'Constitution of Man.']

The chief then, or at least the usual subject-matter of the argument for the wisdom and goodness of God, is the obvious adaptation wherewith creation teems, throughout all its borders, of means to a beneficial end. And it is manifest that the argument grows in strength with the number and complexity of these means. The greater the number of independent circumstances which must meet together for the production of a useful result—then, in the actual fact of their concurrence, is there less of probability for its being the effect of chance, and more of evidence for its being the effect of design. A beneficent combination of three independent elements is not so impressive or so strong an argument for a divinity, as a similar combination of six or ten such elements. And every mathematician, conversant in the doctrine of probabilities, knows how with every addition to the number of these elements, the argument grows in force and intensity, with a rapid and multiple augmentation—till at length, in some of the more intricate and manifold conjunctions, those more particularly having an organic character and structure, could we but trace them to an historical commencement, we should find on the principles of computation alone, that the argument against their being fortuitous products, and for their being the products of a scheming and skilful artificer, was altogether overpowering.

We might apply this consideration to various departments in nature. In astronomy, the independent elements seem but few and simple, which must meet together for the composition of a planetarium. One uniform law of gravitation, with a force of projection impressed by one impulse on each of the bodies, could suffice to account for the revolutions of the planets round the sun, and of the satellites around their primaries, along with the diurnal revolution of each, and the varying inclinations of the axes to the planes of their respective orbits. Out of such few contingencies, the actual orrery of the heavens has been framed. But in anatomy, to fetch the opposite illustration from another science, what a complex and crowded combination of individual elements must first be effected, ere we obtain the composition of an eye,—for the completion of which mechanism, there must not only be a greater number of separate laws, as of refraction and muscular action and secretion; but a vastly greater number of separate and distinct parts, as the lenses, and the retina, and the optic nerve, and the eye-lid and eye lashes, and the various muscles wherewith this delicate organ is so curiously beset, and each of which is indispensable to its perfection, or to the right performance of its functions. It is passing marvellous that we should have more intense evidence for a God in the construction of an eye, than in the construction of the mighty planetarium—or that, within less than the compass of a hairbreadth, we should find in this lower world a more pregnant and legible inscription of the Divinity, than can be gathered from a broad and magnificent survey of the skies, lighted up though they be, with the glories and the wonders of astronomy.

ASTRONOMY.

We will suppose the reader to station himself, on a clear evening, just after sunset, when the first stars begin to appear, in some open situation whence a good general view of the heavens can be obtained. He will then perceive, above and around him, as it were, a vast concave hemispherical vault, beset with stars of various magnitudes, of which the brightest only will first catch his attention in the twilight; and more and more will appear as the darkness increases, till the whole sky is overspangled with them. When he has awhile admired the calm magnificence of this glorious spectacle, the theme of so much song, and of so much thought,—a spectacle which no one can view without emotion, and without a longing desire to know something of its nature and purport,—let him fix his attention more particularly on a few of the most brilliant stars, such as he cannot fail to recognise again without mistake after looking away from them for some time, and let him refer their apparent situations to some surrounding objects, as buildings, trees, &c., selecting purposely such as are in different quarters of his horizon. On comparing them again with their respective points of reference, after a moderate interval, as the night advances, he will not fail to perceive that they have changed their places, and advanced, as by a general movement, in a westward direction; those towards the eastern quarter appearing to rise or recede from the horizon, while those which lie towards the west will be seen to approach it; and, if watched long enough, will, for the most part, finally sink beneath it, and disappear; while others, in the eastern quarter, will be seen to rise as if out of the earth, and, joining in the general procession, will take their course with the rest towards the opposite quarter.

If he persists for a considerable time in watching their motions, on the same or on several successive nights, he will perceive that each star appears to describe, as far as its course lies above the horizon, a circle in the sky; that the circles so described are not of the same magnitude for all the stars; and that those described by different stars differ greatly in respect of the parts of them which lie above the horizon, some, which lie towards the quarter of the horizon which is denominated the South,* only remain for a short time above it, and disappear, after describing in sight only the small upper portion of their diurnal circle; others, which rise between the south and east, describe larger portions of their circles above the horizon, remain proportionally longer in sight, and set precisely as far to the westward of south as they rose to the eastward; while such as rise exactly in the east remain just twelve hours visible, describe a semicircle, and set exactly in the west. With those, again, which rise between the east and north, the same law obtains; at least, as far as regards the time of their remaining above the horizon, and the proportion of the visible portion of their diurnal circles to their whole circum-

* We suppose our observer to be stationed in some northern latitude.

ferences. Both go on increasing; they remain in view more than twelve hours, and their visible diurnal arcs are more than semicircles. But the magnitudes of the circles themselves diminish, as we go from the east, northward; the greatest of all the circles being described by those which rise exactly in the east point. Carrying his eye farther northwards, he will notice, at length, stars which, in their diurnal motion, just graze the horizon at its north point, or only dip below it for a moment; while others never reach it at all, but continue always above it, revolving in entire circles round one point, called the pole, which appears to be the common centre of all their motions, and which alone, in the whole heavens, may be considered immovable. Not that this point is marked by any star. It is a purely imaginary centre; but there is near it one considerably bright star, called the Pole Star, which is easily recognised by the very small circle it describes: so small, indeed, that, without paying particular attention, and referring its position very nicely to some fixed mark, it may easily be supposed at rest, and be, itself, mistaken for the common centre about which all the others in that region describe their circles; or it may be known by its configuration with a very splendid and remarkable *constellation* or group of stars, called by astronomers the Great Bear. He will further observe that the apparent relative situations of all the stars among one another is not changed by their diurnal motion. In whatever parts of their circles they are observed, or at whatever hour of the night, they form with each other the same identical groups or configurations, to which the name of constellations has been given. It is true, that, in different parts of their course, these groups stand differently with respect to the horizon; and those towards the north, when in the course of their diurnal movement they pass alternately above and below that common centre of motion before described, become actually inverted with respect to the horizon, while, on the other hand, they always turn the same points towards the pole. In short, he will perceive that the whole assemblage of stars visible at once, or in succession, in the heavens, may be regarded as one great constellation, which seems to revolve with a uniform motion, as if it formed one coherent mass; or as if it were attached to the internal surface of a vast hollow sphere, having the earth, or rather the spectator in the centre, and turning round an axis inclined to his horizon, so as to pass through that fixed point or pole already mentioned.

Lastly, he will notice, if he have patience to outwatch a long winter's night, commencing at the earliest moment when the stars appear, and continuing till morning twilight, that those stars which he observed setting in the west have again risen in the east, while those which were rising when he first began to notice them have completed their course, and are now set; and that thus the hemisphere, or a great part of it, which was then above, is now beneath him, and its place supplied by that which was at first under his feet, which he will thus discover to be no less copiously furnished with stars than the other, and bespangled with groups no less permanent and distinctly recognisable. Thus he will learn that the great constellation we have above spoken of as revolving round the pole is co-extensive with the whole surface of the sphere, being in reality nothing less than a universe of luminaries surrounding the earth on all sides, and brought in succession before his view, and referred to the imaginary spherical surface, of which he himself occupies the centre.

There is, however, one portion of this sphere of which he will not thus obtain a view. As there is a portion towards the north, adjacent to the pole above his horizon, in which the stars *never set*, so there is a corresponding portion, about which the smaller circles of the more southern stars are described, in which they *never rise*. The stars which border upon the extreme circumference of this portion just graze the southern point of his horizon, and show themselves for a few moments above it, precisely as those near the circumference of the northern portion graze his northern horizon, and dip for a moment below it, to reappear immediately. Every point in a spherical surface has, of course, another diametrically opposite to it; and as the spectator's horizon divides his sphere into two hemispheres—a superior and inferior—there must of necessity exist a depressed pole to the south, corresponding to the elevated one to the north, and a portion surrounding it, perpetually beneath, as there is another surrounding the north pole, perpetually above it.

> One pole rides high, one, plunged beneath the main,
> Seeks the deep night, and Pluto's dusky reign.

To get sight of this portion, he must travel southwards. In so doing, a new set of phenomena come forward. In proportion as he advances to the south, some of those constellations which, at his original station, barely grazed the northern horizon, will be observed to sink below it and set; at first remaining hid only for a very short time, but gradually for a longer part of the twenty-four hours. They will continue, however, to circulate about the same point—that is, holding the same invariable position *with respect to it* in the concave of the heavens among the stars; but this point itself will become gradually depressed with respect to the spectator's horizon. The axis, in short, about which the diurnal motion is performed, will appear to have become continually less and less inclined to the horizon; and by the same degrees as the northern pole is depressed the southern will rise, and constellations surrounding it will come into view; at first momentarily, but by degrees for longer and longer times in each diurnal revolution.

If he travel continually southwards, he will at length reach a line on the earth's surface, called the equator, at any point of which, indifferently, if he take up his station and recommence his observations, he will find that he has both the centres of diurnal motion in his horizon, occupying opposite points, the northern pole having been depressed, and the southern raised; so that, in this geographical position, the diurnal rotation of the heavens will appear to him to be performed about a horizontal axis, every star describing half its diurnal circle above and half beneath his horizon, remaining alternately visible for twelve hours, and con-

cealed during the same interval. In this situation, no part of the heavens is concealed from his successive view. If a night of twelve hours (supposing such a continuance of darkness possible at the equator) the whole sphere will have passed in review over him—the whole hemisphere with which he began his night's observation will have been carried down beneath him, and the entire opposite one brought up from below.

If he pass the equator, and travel still farther southwards, the southern pole of the heavens will become elevated above his horizon, and the northern will sink below it; and the more, the farther he advances southwards; and when arrived at a station as far to the south of the equator as that from which he started was to the north, he will find the whole phenomena of the heavens reversed. The stars which at his original station described their whole diurnal circles above his horizon, and never set, now describe them entirely below it, and never rise, but remain constantly invisible to him; and *vice versa*, those stars which at his former station he never saw, he will now never cease to see.

Finally, if instead of advancing southwards from his first station, he travel northwards, he will observe the northern pole of the heavens to become more elevated above his horizon, and the southern more depressed below it. In consequence, his hemisphere will present a less variety of stars, because a greater proportion of the whole surface of the heavens remains constantly visible or constantly invisible: the circle described by each star, too, becomes more nearly parallel to the horizon; and, in short, every appearance leads to suppose that could he travel far enough to the north, he would at length attain a point *vertically under* the northern pole of the heavens, at which none of the stars would either rise or set, but each would circulate round the horizon in circles parallel to it. Many endeavors have been made to reach this point, which is called the north pole of the earth, but hitherto without success; a barrier of almost insurmountable difficulty being presented by the increasing rigor of the climate: but a very near approach to it has been made; and the phenomena of those regions, though not precisely such as we have described as what must subsist *at* the pole itself, have proved to be in exact correspondence with its near proximity. A similar remark applies to the south pole of the earth, which, however, is more unapproachable, or, at least, has been less nearly approached, than the north.

NOTE.—The above is an account of the phenomena of the diurnal motion of the stars, as modified by different geographical situations, not grounded on any speculation, but actually observed and recorded by travellers and voyagers.

COMBINATIONS TO RAISE WAGES.

[From Hon. A. H. Moreton, M. P.]

The ordinary effect of combinations to raise wages above their natural state, is to reduce them below their previous level. Where such combinations exist the trade will be contracted; and where it is practicable, the manufacturer will be supplanted in the market by goods brought from places where labor is free. Consequently, where a trade is open to the competition of all the world, workmen necessarily perceive it to be their interest to allow their wages to be reduced when the demand for the article they manufacture materially falls. If, for example, the hand-loom weavers, whose wages have been reduced by the competition of the power-loom, were to combine for a rise of wages, their services would be altogether dispensed with.

But in trades not open to any exterior competition, a combination of all that trade in a particular town is often successful. If the masons, for instance, of a particular place, should combine, and by intimidation prevent those who do not belong to their Union from working, they might force their masters to raise their wages. But let us see at whose expense these additional wages are paid. It is not taken out of the pocket of the master-builder; for if he does not receive a fair profit on his capital, he will leave the place or the trade. The master-builder then, to reimburse himself, will charge a higher price for his buildings. And every one who builds a house pays higher for it in consequence of the combination; and charges a higher price, of course, to his tenant or lodger. It is important, however, to observe, that not only the price of rent and lodging in a new house, but of all the houses in the place are raised because of the combination.

Thus, to raise the wages of masons employed in building five houses, the rent or lodging in 505 houses is kept, or raised to a higher price. This is a curious instance of a combination of a small body of laborers augmenting the rents of the rich who have houses to let, at the expense of the laborers and others who are obliged to hire lodgings.

Take another instance. In the ship-building trade in Dublin, the workmen have long had a successful combination to keep up their wages: and the consequence has been, that it became so much more expensive to build ships there, than elsewhere, that no ships have been built there for many years; the trade being entirely confined to repairing vessels trading to that port.

In some other trades, the workmen of Dublin have entered into combinations: And the consequence has been, that while the laborers in these trades are receiving high wages, the wages of common laborers, whose numbers prevent them from combining, are very low. It has been lately stated, that the wages of skilled labor in Dublin are nearly as high as in London, but common manual labor at least sixty per cent below; and provisions twenty-five per cent less than in London. Thus the common laborers are prevented from raising themselves to a class receiving a higher rate of remuneration, or from obtaining more extensive employment, by the combinations which restrict the number of laborers in the different trades. Could the mass of laborers see their own interest, they would exert themselves to put down such combinations.

The first person who erected a cotton mill in America, left England because of combinations among his workmen. Here, the employment offered by the capital of this manufacturer was not only lost forever to England, but a new trade was taught to the Americans, who have since become our rivals, and even undersell us in some descrip-

tions of cotton goods. Even fears of a combination among workmen has a tendency to raise the price of an article. Besides, combinations among laborers have the effect of cheapening the article manufactured, and lowering their own wages, by inducing their masters to introduce machinery for economising, or superseding the labor of such workmen. About twenty years ago, the workmen, employed in forging the iron to be converted into gun-barrels, *struck* for an advance of wages, and as their demands were exorbitant, they were not complied with; and a process soon occurred to the superintendent, by the use of which a great diminution of labor was effected. The workmen, therefore, who had acquired great skill in that kind of labor, ceased to derive any advantage from their ingenuity.

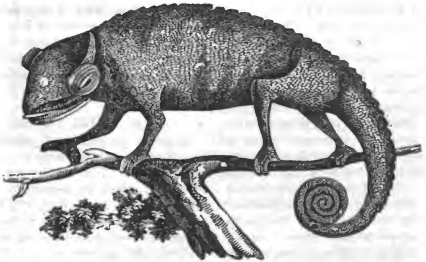
EXTRACT FROM A MS. JOURNAL OF AN OFFICER OF THE WAR OF THE REVOLUTION.

'In the campaign of 1777, the brave and generous Marquis Lafayette, a youth of uncommon spirit, from France, joined Gen. Washington at Brandywine battle. In the campaign of the winter 1778, Baron Steuben, an experienced soldier of Prussia, joined Gen. Washington at Valley Forge. He was a great acquisition.

'Gen. Washington assembled his recruits from the different states, raised on short enlistments, none exceeding one year, at New York, in July, 1776; and in Jersey, after Gen. Howe evacuated Boston, cantoned them near Elizabethtown and Amboy, enrolled on paper, including militia, between 20 and 30,000—rations issued to the militia as well as to the continentals thus distinguished, badly armed and worse clothed. Ten thousand, called flying camp, turned out for four months; they came to camp when they pleased, and out when they pleased—a ragged set; their time expired in December, 1776. In July, Congress passed the rubicon, by declaring the thirteen provincial governments Independent States. In July and August, Gen. Howe entered the Narrows with a tremendous fleet, men-of-war, and transports—landed on Staten Island 20,000 men; the people submitted. On the 20th, 18,000 crossed over to Long Island, encamped at Gravesend, well armed and well found—the people received them kindly. Gen. Washington was fortifying at Brooklyn. On the 22d, Gen. Howe moved to the high grounds near Flatbush, where the Americans were encamped, commanded by Gen. Sullivan. The two armies skirmished for a few days with the Hessians in the bush. On the 27th August, Gen. Howe advanced on Gen. Washington's handful of militia and recruits, with at least 15,000 veterans—our army outflanked them, killed, wounded and made prisoners of between 2 and 3,000, among whom were several generals, colonels, majors, captains and lieutenants. Gen. Washington crossed the river from New York, and reinforced Gen. Sullivan, who commanded his advance—kept Gen. Howe amused until the 29th; then, under cover of a fog, retired to New York, with no other loss than that of the 27th. Washington fought Gen. Howe, with his raw troops, until December, the month in which the time of his men expired; then he retreated to Delaware with his hospital, and a few militia and recruits. Gen. Howe followed Washington—lost all his camp equipage, tents, &c., but got his hospital over the Delaware. On the 8th December, Gen. Howe overran Jersey, and issued his proclamation. The people submitted, and took protection from him. The British spread themselves from Amboy to Burlington, making Brunswick their head quarters, continuing the Hessians in Trenton, Croswick and Burlington. Washington built fires in the woods on the Pennsylvania side of the Delaware, and in a few days he was joined by a few militia from Philadelphia, and prevailed on a few New England regiments, whose time would expire on the last day of December, to remain with him, until the troops, expected from Virginia, should arrive. On the 25th December, the Hessians took a Christmas drink; and on the morning of the 26th, Washington paid them a visit, and broke them up; he brought off nine hundred prisoners. Gen. Howe concentrated his army, then more than 12,000 strong, at Princeton and Brunswick. On the 1st January, 1777, Washington determined to cross the Delaware, and attack Gen. Howe at Princeton. On the 2d, Howe advanced on Washington, near Maidenhead. Washington had about 3000 men of all armies—had to retreat to Trenton, and there made a stand. Gen. Howe halted at Trenton, expecting to breakfast on Washington's army, on the 3d,—but Washington turned Howe's left, in the night, marched twenty-two miles, and attacked Howe's position at Princeton and carried it, before Howe could get up, in the morning of the 3d of January, 1777. Gen. Washington then took the Pluckemin road, and encamped in the woods near Morristown, next day, and harassed Gen. Howe all winter. Thus Washington out-generaled Howe the second time since the 27th August, 1776. Howe took to the shipping in June, and proceeded with all the army he could spare, to the Chesapeake, and landed in August, at Turkey Point.

'Gen. Washington assembled the militia and his new raised army, not amounting to more than 12,000 men of all arms, and met Gen. Howe on the Brandywine banks, on the 11th September, 1777, fought his 15,000 veterans all day, and retired to Chester in the night, and the next day entered Philadelphia, to consult with Congress, what was to be done under the existing circumstances. At Brandywine, the noble youth, Lafayette, (inexperienced in war, but full of zeal,) volunteered with Washington, to die or conquer. Here he bled freely, but kept the field. He supported Washington with his influence in France and his fortune, till he had the pleasure of witnessing the proud Britons giving up the contest, in 1783. And it may be said of this noble youth, that he risked his life, and sacrificed his patrimony, and standing, with the nobles of his country, to save a state, and establish the independence of America.'

Superficial knowledge, pleasure dearly purchased, and subsistence at the will of another—these are the disgrace of mankind.



THE CHAMELEON.

This is a very curious little animal, especially as to the various hues its covering assumes, at different times and in different positions. It has been matter of dispute what is the real color of the animal; and this has given occasion to ludicrous stories of travellers, which are familiar to most readers. Naturalists suppose that these different hues are owing to the varying velocity of the blood; the skin being thin and granulated; which is the case when the animal is alarmed or irritated; not that the animal has the power of giving a different color, as has been supposed, or is conscious of doing it; but that the hue is affected and altered by varied expositions of the skin to the light, which is caused by the different velocity of the blood, arising from fear or anger.

The eye of the chameleon is very remarkable; it is large and projecting, so that it can see behind, before and on either side, without turning the head. The eye-lid is granulated, as are all parts of the surface of the body; which accounts for its various colors, as the body swells or is compressed.

This animal is of the lizard kind, and is sluggish and slow in its motions. It is without any visible external ear. The tail is long, and enables the animal to grasp limbs of trees, and suspend itself. The lungs are found to be large, and when fully inflated the skin is in a measure transparent. They appear at times to be inhaling the air, which inflates the body; and thus it is said that they feed on air.

CYLINDRICAL MIRRORS.

[From Brewster's Optics.]

'All objects seen by reflection in a cylindrical mirror are necessarily distorted. If an observer looks into such a mirror with its axis standing vertically, he will see the image of his head of the same length as the original, because the surface of the mirror is a straight line in a vertical direction. The breadth of the face will be greatly contracted in a horizontal direction, because the surface is very convex in that direction, and in intermediate directions he head will have intermediate breadths. If the axis of the mirror is held horizontally, the face will be as broad as life, and exceedingly short. If a picture or portrait M N is laid down horizontally before the mirror A B, the reflected image of it will be highly distorted; but the picture may be drawn distorted according to regular laws, so that its image shall have the most correct proportions

Cylindrical mirrors, which are now very uncommon, used to be made for this purpose. and were accompanied with a series of distorted figures, which when seen by the eye have neither shape nor meaning, but laid down before a cylindrical mirror, the reflected image of them has the most perfect proportions. This effect is shown here, where M N is a distorted figure, whose image in the mirror A B has the appearance of a regular portrait.

THE CHRISTIAN'S DEATH BED.

Rev. Dr. Toulmin, a baptist, in England, who died a few years ago said, 'I look forward to death with serenity and hope—supported in the view of that awful event, by a firm persuasion of the infinite and essential mercy of God, and thankful for those clear and full assurances given of it by Jesus Christ, in whom I rejoice as the divine author of Christianity, and in whom I confide as the appointed Lord of the dead and the living; and the promise of whose second appearance, to raise the righteous from the grave, to glory and immortality, excites my delightful hope.'

When the celebrated Addison was on his death-bed, and several of his relatives and friends were about him, he spoke of his approaching decease with perfect calmness; and turning to a young friend who had often expressed skeptical opinions, he said, 'see how a believer in the Christian revelation can die.'

WIT AND PLEASANTRY.

To the Biography of Hon. Robert T. Paine, (one of the signers of the Declaration of Independence, and one who ranked very high among the leading characters of Massachusetts) prepared several years ago by the present Editor of this Magazine, some notes are appended; in one of which a statement is given of a letter of Mr Paine, in 1762, then an attorney at law in Bristol county. It is now given on account of its wit and irony, for which the writer was distinguished, so as to be the delight of society, even the most literary. The letter is a reply to J. Sewall (then attorney-general of the Province) who had proposed the following queries to his friend Mr. Paine—'How is the harvest in your part of the vineyard? Which side do you take in politics? * What think you of coin? What, of *writs of assistance?* What, of his honor, the L—— G ——? (Hutchinson). What, of Otis? What, of Thacher? What, of Coke, the cobler? What think you of bedlam for political madmen? What, of patriotism? What, of disappointed ambition? What, of the fable of the bees? What——? Send me your thoughts on these questions, and I will forward fifty more.

After a few days, this answer was received from Mr. Paine. 'Friend Jonathan, I have just received yours, and shall take special care of the enclosed. Your queries demand an immediate answer, in which I hope you will find a satisfactory display of the orthodoxy of my mind. To first query, I answer, the old account is reversed, for the harvest is small and the laborers are many, and there are many little foxes that spoil the vines. To second query, I reply the *right* side. To the third question, I say, what hungry men do of food, if they can get any, never dispute the quality or the price. I reply to the fourth inquiry, never was more need of them; I shall soon apply for one to get me a *help meet*. Question fifth: What of his honor, the L. G.? I answer, as the son of Sirach said, 'all things cannot be in vain, because man is not immortal—what is brighter than the sun? yet the light thereof faileth.' What of Otis? Answer; what the virtuosi do of Lemory's concave mirror, which *burns* every thing which cannot be melted. What of Thacher? Answer: as Jacob said of his son Dan, 'as a serpent in the way he biteth the horse's heels, so that his rider falleth backward.' What of Coke, the cobler? That he is dignified with a title which many others deserve more. What of bedlam for political madmen? It will by no means do; being already occupied by madmen of a more *sacred* profession. What of patriotism? As I do of the balance master's art, very few have virtue enough, in the Roman sense, to keep themselves perpendicular. What of disappointed ambition? Consult your own mind, in having *no* reply to this question. What of the fable of the bees? It proves that good old word, 'the wrath of man shall praise the Lord.' Last question, What——? It is the recapitulation of all the others. Thus I have gone through my catechism, and according to the good rule of education, the next step is to learn it with *proofs*; in which I shall hardly fail of success, if I keep to that standard. As for the fifty questions more with which you threaten me, I beg when you execute it, you would observe a modern rule of answering them yourself as you go along.

* The dispute had then begun with the British Ministry, especially as to *writs of assistance;* and a bitter controversy was then going on, also, as to gold coin, for a circulating medium.

THE TRADE-WINDS.

A great geographical phenomenon, which owes its existence to the earth's rotation, is that of the trade-winds. These mighty currents in our atmosphere, on which so important a part of navigation depends, arise from, first, the unequal exposure of the earth's surface to the sun's rays, by which it is unequally heated in different latitudes; and, secondly, from that general law in the constitution of all fluids, in virtue of which they occupy a larger bulk, and become specifically lighter when hot than when cold. These causes, combined with the earth's rotation from west to east, afford an easy and satisfactory explanation of the magnificent phenomena in question.

It is a matter of observed fact, that the sun is constantly vertical over some one or other part of the earth between two parallels of latitude, called the tropics, respectively $23\frac{1}{2}^{\circ}$ north, and as much south of the equator; and that the whole of that zone or belt of the earth's surface included between the tropics, and equally divided by the equator, is, in consequence of the great altitude attained by the sun in its diurnal course, maintained at a much higher temperature than those regions to the north and south which lie nearer the poles. Now, the heat thus acquired by the earth's surface is communicated to the incumbent air, which is thereby expanded, and rendered specifically lighter than the air incumbent on the rest of the globe. It is, therefore, in obedience to general laws displaced, and buoyed up from the surface, and its place occupied by colder, and therefore heavier air, which glides in, on both sides, along the surface, from the regions beyond the tropics: while the displaced air, thus raised above its due level, and unsustained by any lateral pressure, flows over, as it were, and forms an upper current in the contrary direction, or toward the poles; which, being cooled in its course, and also sucked down to supply the deficiency in the extratropical regions, keeps up thus a continual circulation.

Since the earth revolves about an axis passing through the poles, the equatorial portion of its surface has the greatest velocity of rotation, and all other parts less in the proportion of the radii of the circles of latitude to which they correspond. But as the air, when relatively and apparently at rest on any part of the earth's surface, is only so because in reality it participates in the motion of rotation proper to that part, it follows that when a mass of air near the poles is transferred to the region near the equator by any impulse urging it directly towards that circle, in every point of its progress towards its new situation it must be found deficient in rotatory velocity, and therefore unable to keep up with the speed of the new surface over which it is brought. Hence, the currents of air which set in towards the equator from the north and south must, as they

glide along the surface, at the same time lag, or hang back, and *drag upon* it in the direction *opposite* to the earth's rotation, *i. e.* from east to west. Thus these currents, which but for the rotation would be simply northerly and southerly winds, acquire, from this cause, a *relative* direction towards the west, and assume the character of permanent northeasterly and southeasterly winds.

Were any considerable mass of air to be *suddenly* transferred from beyond the tropics to the equator, the difference of the rotatory velocities proper to the two situations would be so great as to produce not merely a wind, but a tempest of the most destructive violence. But this is not the case; the advance of the air from the north and south is gradual, and all the while the earth is continually acting on, and by the friction of its surface accelerating its rotatory velocity. Supposing its progress towards the equator to cease at any point, this cause would almost immediately communicate to it the deficient motion of rotation, after which it would revolve quietly with the earth, and be at relative rest. We have only to call to mind the comparative thinness of the coating which the atmosphere forms around the globe and the immense mass of the latter, compared with the former (which it exceeds at least 100 millions times), to appreciate fully the absolute *command* of any extensive territory of the earth over the atmosphere immediately incumbent on it, in point of motion.

It follows from this, then, that as the winds on both sides approach the equator, their easterly tendency must diminish. The lengths of the diurnal circles increase very slowly in the immediate vicinity of the equator, and for several degrees on either side of it hardly change at all. Thus the friction of the surface has more time to act in accelerating the velocity of the air, bringing it towards a state of *relative* rest, and diminishing thereby the relative set of the currents from east to west, which, on the other hand, is feebly, and, at length, not at all reinforced by the cause which originally produced it. Arrived, then, at the equator, the trades must be expected to lose their easterly character altogether. Not only this but the northern and southern currents, here meeting and opposing, will mutually destroy each other, leaving only such preponderancy as may be due to a difference of local causes acting in the two hemispheres, which in some regions around the equator may lie one way, in some another.

The result, then, must be the production of two great tropical belts, in the northern of which a constant northeasterly and in the southern a southeasterly, wind must prevail, while the winds in the equatorial belt, which separates the two former, should be comparatively calm and free from any steady prevalence of easterly character. All these consequences are agreeable to observed fact, and the system of ærial currents above described constitutes in reality what is understood by the regular *trade-winds*.

The constant friction thus produced between the earth and atmosphere in the regions near the equator must (it may be objected) by degrees reduce and at length destroy the rotation of the whole mass. The laws of dynamics, however, render such a consequence generally impossible; and it is easy to see, in the present case, where and how the compensation takes place. The heated equatorial air, while it rises and flows over towards the poles, carries with it the rotatory velocity due to its equatorial situation into a higher latitude, where the earth's surface has less motion. Hence, as it travels northward or southward, it will *gain* continually more and more on the surface of the earth in its diurnal motion, and assume constantly more and more a *westerly* relative direction; and when at length it returns to the surface, in its circulation, which it must do more or less in all the interval between the tropics and the poles, it will act on it by its friction as a powerful southwest wind in the northern hemisphere, and a northwest in the southern, and restore to it the impulse taken up from it at the equator. We have here the origin of the almost universal westerly winds in the North Atlantic, which are, in fact, nothing else than a part of the general system of the reaction of the trades, and of the process by which the equilibrium of the earth's motion is maintained under their action.—*Herschel.*

AUTOMATA.

[From 'Brewster's Letters on Natural Magic.']

Dædalus was the first, we believe, who has the reputation of constructing machines that imitated the motions of the human body. Some of his statues are said to have moved about spontaneously, and Plato, Aristotle, and others have related that it was necessary to tie them, in order to prevent them from running away. Aristotle speaks of a wooden Venus, which moved about in consequence of quicksilver being poured into its interior; but Callistratus, the tutor of Demosthenes, states, with some probability, that the statues of Dædalus received their motion from the mechanical powers. Beckmann is of opinion that the statues of Dædalus differed only from those of the early Greeks and Egyptians in having their eyes open and their feet and hands free, and that the reclining posture of some, and the attitude of others 'as if ready to walk,' gave rise to the exaggeration that they possessed the power of locomotion. This opinion, however, cannot be maintained with any show of reason; for if we apply such a principle in one case, we must apply it in all, and the mind would be left in a state of utter skepticism respecting the inventions of ancient times.

We are informed by Aulus Gellius, on the authority of Favorinus, that Archytas of Tarentum, who flourished about 400 years before Christ, constructed a wooden pigeon which was capable of flying. Favorinus relates, that when it had once alighted, it could not again resume its flight; and Aulus Gellius adds, that it was suspended by balancing, and animated by a concealed aura or spirit.

Among the earliest pieces of modern mechanism was the curious water-clock presented to Charlemagne by the Kaliph Harun al Raschid. In the dial-plate there were twelve small windows, corresponding with the divisions of the hours. The hours were indicated by the opening of the windows,

which let out little metallic balls, which struck the hour by falling upon a brazen bell. The doors continued open till twelve o'clock, when twelve little knights, mounted on horseback, came out at the same instant, and after parading around the dial, shut all the windows, and returned to their apartments.

The next automata of which any distinct account has been preserved are those of the celebrated John Muller, or Regiomontanus, which have been mentioned by Kircher, Baptista Porta, Gassendi, Lana, and Bishop Wilkins. This philosopher is said to have constructed an artificial eagle, which flew to meet the Emperor Maximilian when he arrived at Nuremberg on the 7th June, 1470. After soaring aloft in the air, the eagle is stated to have met the emperor at some distance from the city, and to have returned and perched upon the town gate, where it waited his approach. When the emperor reached the gate, the eagle stretched out its wings, and saluted him by an inclination of its body. Muller is likewise reported to have constructed an iron fly, which was put in motion by wheel-work, and which flew about and leaped upon the table. At an entertainment given by this philosopher to some of his familiar friends, the fly flew from his hand, and after performing a considerable round, it returned again to the hand of its master.

The Emperor Charles V. after his abdication of the throne, amused himself in his later years with automata of various kinds. The artist whom he employed was Janellus Turrianus of Cremona. It was his custom after dinner to introduce upon the table figures of armed men and horses. Some of these beat drums, others played upon flutes, while a third set attacked each other with spears. Sometimes he let fly wooden sparrows, which flew back again to their nest. He also exhibited corn-mills so extremely small that they could be concealed in a glove, yet so powerful that they could grind in a day as much corn as would supply eight men with food for a day.

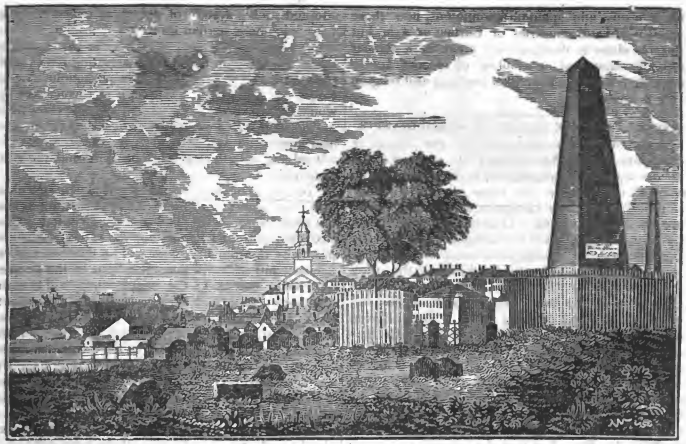
The next piece of mechanism of sufficient interest to merit our attention is that which was made by M. Camus for the amusement of Louis XIV. when a child. It consisted of a small coach, which was drawn by two horses, and which contained the figure of a lady within, with a footman and page behind. When this machine was placed at the extremity of a table of the proper size, the coachman smacked his whip, and the horses instantly set off, moving their legs in a natural manner, and drawing the coach after them. When the coach reached the opposite edge of the table, it turned sharply at a right angle, and proceeded along the adjacent edge. As soon as it arrived opposite the place where the king sat it stopped; the page descended and opened the coach-door; the lady alighted, and with a courtesy presented a petition, which she held in her hand, to the king. After waiting some time she again courtesied and re-entered the carriage. The page closed the door, and having resumed his place behind, the coachman whipped his horses and drove on. The footman, who had previously alighted, ran after the carriage, and jumped up behind into his former place.

ANTIOCH.

This was a city of great note at the commencement of the Christian era, and for some years before. It was founded by Antiochus and Nicanor about 300 years before the birth of Christ. It was sometime the capital of the Greek-Syrian dynasty, and was called, by the Romans, the Queen of the East. Its wealth and prosperity greatly increased under the Roman power. Its local situation was highly favorable to commerce with India. Articles and goods were transported to it from the far East, by the Euphrates; and from it, by the Orontes, on which it was situated, the largest river in Syria, to the Mediterranean, and thence to Greece, Italy, and the numerous islands and ports in that central sea. To the Christian world, Antioch is a place of interest, as there were found many disciples of Jesus, our Saviour, at an early period, and there they were first distinguished by the name of Christians. It was also a place of learned men, and the light of the gospel was extended from that populous city to various parts of the world. When the crusades, or holy wars, were undertaken against the Saracen Infidels, by Christian princes from the west of Europe, Antioch was the first great city which fell into their hands. It was the centre of their power in that part of the world, till it was taken from them by the Sultan of Egypt, a zealous follower of Mahomet. They destroyed most of the city, especially churches and public buildings used by the Christian princes of Europe; and the trade and wealth of the country were transferred to Aleppo. The ancient city thus became comparatively insignificant; and now it is a small town, with poor and ill-built houses, and only about 10,000 inhabitants. Its former population was 180,000 or 200,000.

AGITATION OF WATER.

Agitation with water is one of the restoring causes which the wisdom of the Creator has provided to purify the air. The foulest air shaken in a bottle with water for a sufficient length of time, recovers a great degree of its purity. Here we see the salutary effects of *storms and tempests* The yesty waves, which confound the heaven and the sea, are doing the very thing which is done in the bottle. Nothing can be of greater importance to the living creation, than the salubrity of the atmosphere. It ought to reconcile us therefore to those agitations of the elements, of which we are apt to deplore the consequences, to know, that they tend powerfully to restore to the air that purity which many causes are continually impairing.



MONUMENT TO THE REV. JOHN HARVARD.

Rev. John Harvard, to whose memory the monument here presented was erected in 1828, was the principal donor to the literary seminary at Cambridge in its infancy, and has generally been considered its founder. So important and so large was his donation, that the civil rulers of Massachusetts, who encouraged and patronised it from the first, gave it the name of Harvard College, soon after the bequest. This was in the year 1638: and the amount given by Mr. Harvard was 780 pounds. The magistrates of the colony, though comparatively few in number, (probably not then exceeding 5,000,) and subject to great charges and costs in removing to this country, and preparing for the comfort of their families, in 1636, agreed to appropriate 400 pounds towards the support of a college, or school, in that place.

A large tract of land was soon after granted to it, and several individuals early made donations, of various sums. Mr. Harvard's gift was exceedingly opportune, and was perhaps almost essential to its continuance, certainly to its growth and usefulness. Mr. Harvard came to this country in 1637, and resided at Charlestown, where he preached for a short time. It is believed that he was an invalid when he arrived; and he died in September, 1638. He was educated at Emmanuel college in the university of Cambridge, England; and had the reputation of a good scholar. He was sometime a settled minister in that country; but was, no doubt, of the class of the *puritan* clergy, or he would not have emigrated from his native land. Very little of the history of this worthy man has been preserved. It is evident his estate was considerable, compared to most of the clergy of his time. For, though several of them were far from being very poor, few only had large estates; and those who had a goodly portion of worldly things sacrificed much by their removal. It is not known whether he had a family, but it is believed he left a widow.

There is no record of any will made by him in writing, but his bequest to the seminary in Cambridge was sufficiently legal to take effect. Nuncupative wills have always been considered as valid, with proper witnesses, whose testimony is soon afterwards given. The sum Mr. Harvard gave was a full moiety of his whole property. He also ordered that his library, which consisted of more than three hundred volumes, should be given to that infant seminary.

The monument was erected by subscriptions of the graduates of Harvard college, in small sums. The amount collected and expended, is not now recollected. The monument is constructed of native granite, in a solid shaft of fifteen feet elevation, and in the simplest style of ancient art. On the eastern face of the shaft, the name of John Harvard is inscribed, with these lines, 'On the 26th of September, A. D. 1828, this stone was erected by the graduates of the University at Cambridge, in honor of its founder, who died at Charlestown on the 26th of September, 1638.' On the western side of the shaft, is an inscription in Latin, of the following purport; 'that one who merits so much from our literary men, should no longer be without a monument, however humble, the graduates of the University of Cambridge, New England, have erected this stone, nearly two hundred years after his death, in pious and perpetual remembrance of John Harvard.' The erection of the monument was sanctioned by a large meeting of the graduates of the University, who were present on the occasion; when Mr. Edward Everett, now the chief magistrate of Massachusetts, and one of the best scholars educated in Harvard college, delivered an appropriate and eloquent address. The object was not to

have a costly and splendid monument, like those erected in the old countries of Europe or Asia, but a durable stone to designate the grave of a scholar and a Christian, and as a token of respect due to such a man from the friends of learning and religion of the present age.

EXTRACT FROM THE HISTORY OF MASSACHUSETTS.

'A committee was appointed by the House of Representatives in November, 1770, to correspond with the agent in England, and with committees in the other colonies, on the state of public affairs. Samuel Adams, John Hancock, and John Adams, were on this committee. It does not appear that they immediately opened a correspondence with the other colonies. The objections made to a circular letter from the general court in 1768, to the other colonies, might have prevented. But they wrote to their agents in England, Benjamin Franklin and Arthur Lee, in very pressing terms. They referred to the late measures of administration, which they considered oppressive and repugnant to their charter rights: and they said they feared the loss of all which was dear in society, unless ministers could be induced to change their policy towards the colonies. Franklin, in reply, said, "that many in England doubted the right of parliament to lay taxes on the people in America: but that the ministers were not willing to admit they had not the right." He was of opinion, they would not insist or practise on the principle in future. But in this he was mistaken. They adhered to it more rigidly till the revolution took place. He admitted, "that Massachusetts had been persecuted and abused by individuals both in the province and in England. The design," he says, "was to render you odious, and then deprive you of your rights by violent or arbitrary measures. I hope the colonies will show, by their resolves, that they know their rights, and will not relinquish them. Ministers object to your having agents here, except such as your governor approves. But such agents would be of no benefit to you; they would not be faithful to your rights and interests." He added — "I have given it as my opinion, that if you could be restored to the rights you enjoyed before the measures and policy of administration in 1764, you would be satisfied: and I am glad to find by your letter, that I have expressed your views, in this respect." Mr Lee had less hopes in the lenity and justice of the British ministry, at that time. After referring to "the firm stand, made by Massachusetts against insidious and oppressive acts of administration, which was applauded by the present, and would secure the gratitude and admiration of future times," he observed, "he had a lively sense of the peculiar oppressions of Massachusetts, and could assure them, that to the utmost of his power he would unite with the other agents in watching over their rights, in seeking for a redress of their grievances, and fixing the great principles of freedom on a permanent constitutional basis. But I think America must depend on her own exertions and firmness in securing the object of her wishes. America must work out her own salvation. From the British government, she must expect neither mercy nor justice. The present ministry have designedly adopted such a system of policy, as to render quiet submission to it perfect slavery. They have substituted discretion for law, and set the principles of the constitution afloat on the fluctuating sea of arbitrary will. Not to oppose this pernicious system would be a crime. To oppose it unsuccessfully, would be a misfortune only. If lawless power must prevail, still it behoves us to protest against it; and bear testimony before God and man, that we did not submit, without a struggle, to a humiliating state of bondage."

'In one of his letters in May, 1771, Dr. Franklin said, "he saw in the policy of administration, that the seeds were sowing for a total disunion of the two countries. Men are appointed to office and power by the ministry, who will be insolent and rapacious, and who will become odious to the people; and being odious to the people, they will become malicious; and will misrepresent and calumniate them. They will complain and apply to the parent government for more power, and for aid from the military. The oppressions on the people will lead to riots and violences. Greater force and rigor will be necessary to keep the people in subjection. Force will beget force in opposition. War will ensue—and the alternative will be absolute slavery or independence. I am no prophet: but history shows, that by such steps great empires have been divided."'

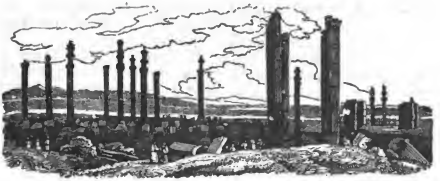
THE CHANGE.

'It is interesting, sometimes, to look back and note the changes that have been wrought in regard to the use of ardent spirits. We are informed that there have been, at one time, as many as ten taverns in Northampton, retailing ardent spirits, besides quite a number of groceries, one of which afforded a profit of 1200 dollars a year, from the sale of ardent spirits alone. Now there are no groceries, which retail ardent spirits, and but five taverns. The travel is much more than it was when there were ten public houses; they were supported from the profits of their bars. There is probably much less retailed at the hotels now, than there was at an equal number in times past. Then every body drank, and in no small quantity. The farmer could scarcely go into his field without his bottle of rum, or into the woods, without calling once or twice to take a dram; and it was difficult to go amiss of taverns.

'The tax upon the community of supporting so many taverns and rum groceries was immense. All the energies of the people were consumed to supply the community with rum. We often wonder that they got along as well in the world as they did. We are almost astonished that they were not all drunkards. But the change! The profits of rum are going down, and the profits of industry are rising up. All classes, but the rum-selling class, are making more money now than they were ten years ago. Industry meets with her reward. The mechanic and farmer thrive. O, thou monster!

"If we had no name by which to know thee,
We would call thee DEVIL."'

In misfortune, we prove a friend; in danger, a hero; in wealth, a religious man—a wise man in poverty.



PERSEPOLIS.

Persia was one of the most powerful monarchies of Asia, in early times, connecting the eastern with the western parts of that quarter of the world, and having a great influence on the most of Europe. It still retains some interesting features: not the least of which are the ruins of once splendid cities and palaces. Persepolis is one of the most remarkable of the latter: some suppose it was the most magnificent structure ever erected The front was 600 paces, and the side 390. From what remains, its architecture was of a peculiar style, but of correct proportions and beautiful execution. The staircases are very magnificent, and the portals and capitals of the columns are adorned with numerous figures, representing combats and processions of various kinds. But though the figures are correct, they appear heavy when compared to the best works of Grecian sculpture.

It is supposed that Alexander destroyed Persepolis, after his victory over Darius, who had opposed his conquering expedition. No country except Egypt, it is said, can show such masonry as these ruins. Even in that remote period, the edifices were of an ancient date.

BOSTON, SALEM AND IPSWICH, IN 1686.

[An extract from the journal of a London bookseller, who then visited Massachusetts.]

'As I was rambling through Boston, I met both with lodgings, and a warehouse at Mr. Wilkins's, whose family deserves as well of me, as any in New England. Being thus fixed, I delivered the letters of recommendation I had brought with me from England. I had one from the Rev. Mr. Richard Stretton, to Mr. Stoughton, the deputy governor: and Mr. Morton of Newington-Green, sent another to major Joseph Dudley, afterwards president, which, with other letters to the magistrates, had the good effect that I was made freeman of Boston, though very much obliged for it to the friendship of Mr. Burroughs. Immediately upon this, captain Hutchinson gave me an invitation to dine with the governor and the magistrates in the town hall. The entertainment was very rich and noble, and the governor, deputy-governor, major Dudley, and the other magistrates gave me a very friendly welcome to Boston, and kindly wished me success in my undertaking.

'A particular account of the government in New England would be foreign to my *Life and Errors;* let it be enough to say, the laws in force here, against immorality and profaneness, are very severe. Witchcraft is punished with death, as it is well known; and theft with restoring fourfold, if the criminal be sufficient. An English woman, admitting some unlawful freedoms from an Indian, was forced twelve months to wear upon her right arm an Indian, cut in red cloth.

'He that trades with the inhabitants of Boston, should be well furnished with a Grecian faith; he may get promises enough, but their payments come late. However, under all the disadvantages of that kind, I was now resolved to run the risk of it, and in order to promote the sale, I made a visit to the Rev. Mr. Increase Mather, the metropolitan clergyman of that country, and rector of Harvard college. He is master of a great stock of learning and a very eminent divine. His son, the Rev. Mr. Cotton Mather, was then upon finishing his Magnalia Christi Americana, which has lately been published here in England. There is abundance of freedom and familiarity in the humor of this gentleman; his conversation and his writings are living evidences that he has read much, but there are many that will not allow him the prudence to make a seasonable use of it. His library is very large and numerous, but had his books been fewer when he wrote his history, it would have pleased us better.

'I was next to wait upon the Rev. Mr. Willard, minister of the South Meeting in Boston; he is well furnished with learning and solid notion, has a natural fluency of speech, and can say what he pleases. Afterwards I went to visit the Rev. Mr. Allen, he is very humble and very rich, and can be generous enough, when the humor is upon him.

'Having first paid my visits to the clergy of Boston, and given a character of them, pray give me leave to ask my brethren the booksellers how they do, and that shall be all. For though I know they like to be respected, yet at the same time I am satisfied, that I am as welcome to them as sour ale in summer, for they look upon my gain to be their loss, and do make good the truth of that old proverb, that interest will not lie; but I must begin my addresses to them.

'Mr. John Usher, your humble servant. This trader makes the best figure in Boston; he is very rich, adventures much to sea; but has got his estate by bookselling; he proposed to me the buying my whole venture, but would not agree to my terms,

and so we parted with a great deal of seeming respect.

Mr. Philips, my old correspondent!—It is reason I should make you the next visit. He treated me with a noble dinner, and (if I may trust my eyes) is blest with a pretty obliging wife. I'll say that for Sam (after dealing with him for some hundred pounds) he is very just, and (as an effect of that) very thriving. I shall add to his character, that he is young and witty, and the most beautiful man in the town of Boston.

But leaving Philips, I rambled next to visit Mynheer Brunning, he is a Dutch bookseller from Holland, scrupulously just, plain in his clothes, and if we will believe the printers in Boston (who are notable critics in such cases) a most excellent paymaster. Brunning is versed in the knowledge of all sorts of books, and may well be styled a complete bookseller. He never decries a book, because it is not of his own printing; there are some men that will run down the most elaborate pieces, only because they had none of their assistance to bring them into public view, and yet shall give the greatest encomium to the most nauseous trash, when they had the hap to be concerned in it. But Brunning was none of these; for he would promote a good book whoever printed it; and I found him a man of that great interest, that I made him my partner in printing Mr. Mather's sermon, preached at the execution of Morgan, who was the only person executed in that country for near seven years. From the Dutch, I went to the Scotch bookseller, one Duncan Campbel, he is very industrious, dresses a la mode, and I am told, a young lady of a great fortune is fallen in love with him.

Having visited all the booksellers, I will next give an account of what acquaintance I had in Boston. I shall begin with Mr. Willy, who fled thither on the account of conscience, (and is brother-in-law to the Rev. Mr. Bailey) he is a man of a large heart, one who, in relieving others' wants, considers not so much his own ability, as their necessity: this Monmouth's forlorn fugitives experienced often, to whom he was the common refuge. The next I shall mention is Mr. White, a merchant, who by trading has clasped islands to the continent, and tacked one country to another; his knowledge, both of men and things, is universal. The next was Mr. Green, a printer; I contracted a great friendship with this man; to name his trade, will convince the world he was a man of good sense and understanding; he was so facetious and obliging in his conversation, that I took a great delight in his company, and made use of his house to while away my melancholy hours. Another of my acquaintance was Capt. Gery, a man as eminent for his love to his country, as Junius Brutus and the famous Scavola among the Romans. Another of them was George Monk, a person so remarkable, that had I not been acquainted with him, it would be a hard matter to make any New England man believe that I had been in Boston; there was no house in Boston more noted than George Monk's, or where a man might meet with better entertainment; he was so much the life and spirit of the guests that came to his house, that it was almost impossible not to be cheerful in his company. Another was Captain Townsend, a gentleman very courteous and affable in his conversation.

The next I mention shall be Andrew Thorncomb, bookseller from London, his company was coveted by the best gentlemen in Boston, nor is he less acceptable to the fair sex; for he has something in him so extremely charming, as makes them very fond of his company. However he is a virtuous person, and deserves all the respect they showed him. He visited me often in Boston, and I here declare I have a particular kindness for him.

Another acquaintance was Mr. Heath; were I to write the character of a pious merchant, I would as soon take Heath for the example, as any man I know. There are two things remarkable in him, one is, that he never warrants any ware for good, but what is so indeed; and the other, that he makes no advantage of his chapman's ignorance, where the conscience of the seller is all the skill of the buyer; he does not then so much ask as order what he must pay; and in such cases he ought to be very scrupulous. Bishop Latimer being told he was cozened in buying a knife, no, replied Latimer, he cozened not me, but his own conscience. This person was my daily visiter, and brought me acquainted with one Gore, of New York, with whom I traded considerably.

Mr. Watson shall be the next; formerly a merchant in London, but not thriving there, he left the exchange for Westminster Hall, and in Boston has become as dexterous at splitting of causes, as if he had been bred to it. He is full of fancy and knows the quirks of the law; but to do him justice, he proves as honest as the best lawyer of them all.

Another acquaintance is Mr. Mason. He was a blunt, honest Christian; he will speak his mind, take it how you please.

The next I will mention shall be Mr. Malinson, he is a stiff Independent, (which is rare in a fencer,) and so great a critic, that he would even find a knot in a bulrush. Malinson was one of those unfortunate gentlemen that engaged with Monmouth, and I am told this day, at the Royal Exchange, he now teaches young gentlemen to fence in Boston.

I was so happy as to find *particular friends* in Boston, whose characters I shall next give you, and will begin with Dr. Oakes. He is an eminent physician, and a religious man; at his first coming to a patient he persuades him to put his trust in God, the fountain of health; the want of this has caused the bad success of most physicians, for they that will not acknowledge God in all their applications, God will not acknowledge them in that success which they might otherwise expect. He was a great dissenter whilst he lived in London, and even in New England retains the piety of the first planters; I was recommended to him by Mr. Gilson, as also by a relation of his in Ratcliff, and I must own, the doctor gave me a generous welcome to Boston. From Dr. Oakes I pass to my good friend Dr. Bullivant, formerly my fellow citizen in London; I must consider him both as a gentleman and a physician. As a gentleman, he came of a noble family, but his good qualities exceeded his birth; he is a great master of the English tongue, and the

Northampton people find him a universal scholar; his knowledge of the laws fitted him for the office of attorney-general, which was conferred upon him on the revolution in Boston; it is true he sought it not, but New England knew his worth, and even forced him to accept of it.

'I proceed in the next place to Mr. Gouge, a linen draper from London, son to the charitable divine of that name. He is owner of a deal of wit, his brain is a quiver of smart jests. He pretends to live a bachellor, but is no enemy to a pretty woman. He is high church, yet so great a lover of his father's Christian directions, that he bought two hundred of me to give away, that so he might, as he used to say, make the Bostonians godly. And this was a noted quality in him, that he would always tell the truth; which is a practice so uncommon in New England, that I could not but value his friendship.

'To return to my own affairs, the booksellers in Boston perceived I was very diligent to bring custom to my warehouse, and thereupon began to make terms with me for my whole venture, but that would not do for me, because there is the loss of thirty per cent. in the return of their money. The books I had with me were most of them practical, and well suited to the genius of New England, so that, my warehouse being opened, they began to move apace. Palmer, my apprentice, was very honest and diligent, took the whole charge of my business off my hands, and left me to ramble and divert myself as my fancy would suggest.

'But I must make a transition to arms. It is their custom here for all that can bear arms, to go out on a training day; but I thought a pike was best for a young soldier, and so I carried a pike. And between you and I, reader, there was another reason for it too, and that was, I knew not how to shoot off a musket, but it was the first time I ever was in arms. Being come into the field, the captain called us all into our close order, in order to go to prayer, and then prayed himself. And when our exercise was done, the captain likewise concluded with prayer. I have read that Gustavus Adolphus, the warlike king of Sweden, would before the beginning of a battle kneel down devoutly, at the head of his army, and pray to God, the giver of victory, to give them success against their enemies, which commonly was the event; and that he was as careful also to return thanks to God for the victory. But solemn prayer in the field upon a day of training, I never knew but in New England, where it seems it is a common custom. About three of the clock, both our exercise and prayers being over, we had a very noble dinner, to which all the clergy were invited.

'Some time after I took a trip to Newtown, called Cambridge, in regard, it is the seat of Harvard College. This university took its rise from very small beginnings. There were four hundred pounds raised for that purpose, in a court held at Boston, Sept. 8, 1636. But that which put new life into this design about eight years after, was the gift of seven hundred seventy-nine pounds, seventeen shillings, and two pence, in the last will of the Rev. Mr. John Harvard, after whom it has the name of Harvard College.

'The library of this college is very considerable, being well furnished both with books and mathematical instruments. Sir Kenelm Digby, Sir John Maynard, Mr. Baxter, and Mr. Joseph Hill, were benefactors to it; and the Rev. Mr. Theophilus Gale left his whole library for that use.

'Mr. Cotton, one of the fellows of the college, gave me the invitation to Cambridge, by whose means I sold several books to the students there.

'My next ramble was to Roxbury, in order to visit the Rev. Mr. Eliot, the great apostle of the Indians. He was pleased to receive me with abundance of respect, and inquired very kindly after Dr. Annesly, my father-in-law, and then broke out with a world of seeming satisfaction, "Is my brother Annesly yet alive? is he yet converting souls to God? blessed be God for this information before I die." He presented me with twelve Indian Bibles, and desired me to bring one of them over to Dr. Annesly, as also with twelve speeches of converted Indians, which himself had published.

'It began to run in my head, that Mr. Sewel, one of the magistrates in Salem, had invited me thither, and told me, if I sent part of my venture there, he would do me all the service that was possible, in the sale of them; upon these thoughts, I made a journey to Salem.

'About two of the clock, I reached Captain Marshal's house (which is half way between Boston and Salem,) here I staid to refresh nature with a pint of sack and a good fowl.

'Captain Marshal is a hearty old gentleman, formerly one of Oliver's soldiers, upon which he very much values himself; he had all the history of the civil wars at his fingers' ends, and if we may believe him, Oliver did hardly any thing that was considerable without his assistance; and if I had staid as long as he would have talked, he would have spoiled my ramble to Salem.

'About six o'clock in the afternoon I came to Salem, and found the town about a mile long, with many fine houses in it, and is reported the next town to Boston for trade.

'The first person I went to visit in Salem was Mr. Herrick; how kindly he received a poor traveller, whose life he had saved at sea, you may easier guess than I relate.

'He went with me to take a warehouse, which I thought stood very conveniently. Having settled that affair, Mr. Herrick gave me a fish dinner, and fain would have had me lodged with him, which I should have accepted, but that Mr. Sewel, the magistrate of Salem, sent me word he should take it unkindly, if I did not make his house my quarters; whereupon I desired Mr. Herrick's excuse, and lay at Mr. Sewel's that night; his entertainment was kind and generous, and had I staid a month there, I had been welcome gratis.

'Reader, to give you Mr. Sewel's character in brief, he is the chief magistrate in Salem, his care is to live so as to be an example to the people; he is the mirror of hospitality, and neither Abraham nor Lot were ever more kind to strangers.

'Having slept well in my new quarters, the next day I went to pay a visit to the ministers of Salem, (for you know, reader, they are the greatest bene-

factors to booksellers) so that my paying them a visit, was but, in other words, to go among my customers. The first I visited was Mr. John Higginson, an ancient minister; he resembles my reverend father-in-law, both in his person, and zeal for religion; all men look on him as a *common father*, and on old age, for his sake, as a *reverend* thing.

'He is eminent for learning, humility, charity and all those shining graces that adorn a minister. His very presence and face puts vice out of countenance; he is now in his eightieth year, (yet preaches every Sunday) and his conversation is a glimpse of Heaven. I dined twice at his house, where he promised to assist me in my business, and spoke of my reverend father-in-law with much respect.

'From Mr. Higginson's I went to visit Mr. Noyse, (his assistant.) I spent several agreeable hours in this gentleman's company, which I thought no ordinary blessing, for he is all that is delightful in conversation, so easy company, and so far from all constraint, that it is a real pleasure to talk with him. He gave me a generous welcome to Salem; and it is no lessening to his brother Higginson, to say he is no ways inferior to him for good preaching, or primitive living.

'I must also remember the great civilities I met at Salem from Mr. Epes (the most eminent school master in New England.) He has sent many scholars to the university in New England. He is much of a gentleman, yet has not humbled his meditations to the industry of compliments, nor afflicted his brain in an elaborate leg, (he cannot kiss his hand and cry, madam, your humble servant, nor talk idle enough to bear her company) but though a school, and the hermitage of his study, has made him uncourtly, yet, (which is a finer accomplishment) he is a person of solid learning, and does not, like some authors, lose his time by being busy about nothing, nor make so poor a use of the world, as to hug and embrace it.

'But to return to the thread of my history: having disposed of my venture at Salem, parted with Palmer, and committed my Boston affairs to my kind landlord (Mr. Richard Wilkins) I hoped now in a few days, to take my leave of this new world, and to embark for England; but I see now, when a man is born under a rambling planet, all that he does to fix him at home, does but hasten his travels abroad, for though I was now weary of New England, (for it was not home, nor was Iris there) yet I had a mind to view a few more of the towns, before I left it.

'I was blest with the company of Mrs. Comfort, (my landlord's daughter) in this new adventure.

'All things being ready for this Indian ramble, I took my fair one up behind me, and rode to the river that parts Boston from Ipswich, which though it be often and usually crossed in a canoe, yet I rather chose to cross it in a ferry, having my horse with me.

'Having crossed the river, we mounted again, and rode on our way, meeting, as we rambled along with two or three Indians, who courteously saluted us, with *What cheer netop? Netop* in the Indian language, signifies *friend*. I returned their salutation and passed on, not without observing that there is a vein of civility and courtesy runs in the blood of these wild Indians, both among themselves, and towards strangers.

'The first town we came to was Marvail, which consists only of a few scattered houses, orchards, and gardens; with good pastures and arable land; we here staid for refreshment, and had the luck to see an Indian woman walking by the door, with a child at her back, whom our landlord told us, had not been delivered above two days, so that the curse laid upon women of bringing forth children in sorrow, is mightily moderated to the Indian women, for they have a far more moderate labor, and a more speedy and easy delivery, than most of our European women; which I believe in a great measure is occasioned by the hardness of their constitution, and by their extraordinary labor in the field, as carrying of mighty burdens, and beating their corn in a mortar, &c. I was quite amazed at this account of the Indian women; but our landlord stopped our wondering, by further telling us that most of the Indian women count it a shame for a woman to complain when she is in labor, and many of them are scarcely heard to groan. It seems it is a common thing among them to have a woman merry in the house, and in half an hour's time delivered, and merry again, and within two days abroad (as we saw verified in this Indian woman) and after four or five days at work.

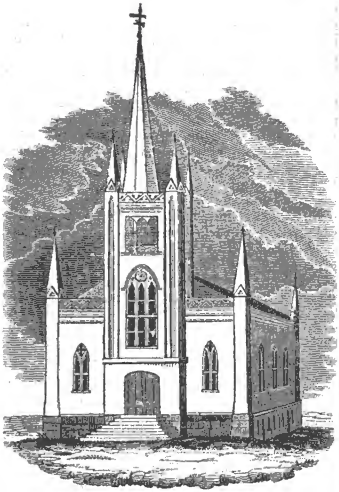
'Having left Marvail behind us, we rambled on towards Wenham. When we came to Wenham (which is an inland town, well stored with men and cattle) we paid a visit to Mr. Geery the present minister of that place, (1686.)

'Wenham is a delicious paradise, it abounds with all rural pleasures, and I would choose it above all other towns in America to dwell in; the lofty trees on each side of it are a sufficient shelter from the winds; and the warm sun so kindly ripens both the fruits and flowers, as if the spring, the summer, and the autumn had agreed together, to thrust winter out of doors.

'It were endless to enter on a detail of each faculty of learning Mr. Geery is master of, and therefore take his character in short hand. The *philosopher* is acute, ingenious and subtle. The *divine* curious, orthodox and profound. The man of a *majestic air*, without austerity, or sourness; his *aspect* is masterly and great, yet not imperious or haughty. The *christian* is devout, without moroseness or starts of holy frenzy and enthusiasm. The *preacher* is primitive, without the accessional colors of whining or cant; and methodical, without intricacy or affectation, and, which crowns his character, he is a man of a public spirit, zealous for the conversion of the Indians, and of great hospitality to strangers. He gave us a noble dinner, and entertained us with such pleasant fruits as I must own old England is a stranger to.

'Taking leave of this generous Levite, we now thought it high time to prosecute our designed ramble to Ipswich. But our conversation was interrupted by a friendly Indian's overtaking us, who was going to Ipswich as well as we; and it being late, we were glad of his company.'

(To be continued in next Number.)



ANDOVER CHURCH.

The church, of which the above is a front view, was begun in July, 1835, and dedicated on the first day of June, 1836. It was built by the first congregational society in Andover, at an expense of 11,400 dollars, including the basement story, repairs of clock, levelling the ground around it, and some other incidental expenditures.

The dimensions of the house are 70 feet by 52; and contains 76 pews on the lower floor. It has a circular gallery on the end opposite the pulpit, with very convenient seats for the singers in the centre, and three pews on each side, reserved as free seats.

The plan was drawn by Richard Bond, Esq. of Boston, and the finish is in the plainest and simplest form of Gothic style. Its outward appearance is that of a neat, well-proportioned, elegant Gothic temple, pronounced by competent judges to be the most beautiful, and best constructed church in the county of Essex.

The pews were appraised so as to meet the whole expenditure, and sold at auction, upon which the sum of 550 dollars was raised more than the amount of appraisal. The highest pews were appraised at 250 dollars, and from ten to fifty-five dollars were bid for choice. The sale was in the afternoon of the day on which it was dedicated; when pews were sold to the amount of 9,888 dollars. At an adjourned meeting the next week they were all but two sold, and one only now remains unsold.

It is a pleasing circumstance, that the society appears to be well pleased with the change, and to be settling down into a permanent and happy peace and union, which promises well for the religious and social interests of the society.

The following hymn, by Rev. W. Allen, was sung at the dedication.

Eternal source of life and love,
Father of all below, above;
With humble hope and filial fear
We, suppliant, to thy throne draw near.

This house of prayer to thee we raise,
And consecrate it to thy praise,
Thy care and goodness, we confess,
Have crowned our labors with success

We joy to see this temple rise
In ancient grandeur to the skies—
To hear the pealing anthem's sound
Echo thy praise these walls around.

Here may Christ's living words impart
Their vital influence to the heart;
And thy good Spirit from above
Inspire the soul with faith and love.

Here may our children's children raise
The prayer of faith, the song of praise,
And distant generations prove
The riches of redeeming love.

DOXOLOGY.

To God supreme, the eternal king,
All hearts and voices join to sing
Blessing and praise in highest strain,
Through Christ, the Lamb, that once was slain.

Note, by the editor of the Magazine.—Andover is one of the oldest *inland* settlements in Massachusetts, after Concord, Sudbury and Woburn, in the county of Middlesex. Haverhill and Andover in Essex were settled in 1647. The north part, we believe, was first settled. And it has always been favored with very respectable and pious ministers. Few parishes or religious societies have been less annoyed, or interrupted by divisions and schisms. The present worthy pastor is much esteemed; and he keeps on 'the even tenor of his way,' as a friend of peace and Christian virtue an example to his people, in piety, righteousness and charity. Such a course is usually attended by harmony at home, and respect abroad; and when this is not the happy result, the consciousness of a love of peace, and a purpose to discharge one's duty faithfully, is a rich reward.

THE ATMOSPHERE.

When we ascend to any very great height above the earth's surface, in a balloon or on mountains, we become aware by many uneasy sensations, of a want of air. The barometer (an instrument that informs us of the weight of air on a given surface) confirms this impression, and affords a direct measure of the rate of diminution of the quantity which a given space includes as we recede from the surface. From its indications, we learn that when we have ascended to the height of a thousand feet, we have left below us about one thirtieth of the whole mass of the atmosphere:—that, at ten thousand six hundred feet of perpendicular elevation, we have ascended through about one third; and at eighteen thousand feet through one half the material, or, at least, the ponderable body of air incumbent on the surface of the earth. From the progression of these numbers, as well as from the nature of the air itself, which is capable of being condensed or crowded into a smaller space, in proportion to the pressure, it will be readily perceived, that, although by rising still higher we should continually get above more and more

of the air, and so relieve ourselves more and more from the pressure with which it weighs upon us, yet the amount of this additional relief, or the *ponderable quantity* of air surmounted, would be by no means in proportion to the additional height ascended, but in a constantly decreasing ratio. An easy calculation, however, founded on our experimental knowledge of the properties of air, and the mechanical laws which regulate its dilation and compression, is sufficient to show that, at an altitude above the surface of the earth not exceeding the hundredth part of its diameter, the tenuity, or rarefaction, of the air must be so excessive, that not only animal life could not subsist, or combustion be maintained in it, but that the most delicate means we possess of ascertaining the existence of *any air at all* would fail to afford the slightest perceptible indications of its presence.

Laying out of consideration, therefore, at present, all nice questions as to the probable existence of a definite limit to the atmosphere, beyond which there is, absolutely and rigorously speaking, *no* air, it is clear, that, for all practical purposes, we may speak of those regions which are more distant above the earth's surface than the hundredth part of its diameter as void of air, and of course of clouds (which are nothing but visible vapors, diffused and *floating* in the air, sustained by it, and rendering it *turbid* as mud does water.) It seems probable, from many indications, that the greatest height at which visible clouds *ever exist* does not exceed ten miles; at which height the density of the air is about an eighth part of what it is at the level of the sea.

We are thus led to regard the atmosphere of air, with the clouds it supports, as constituting a coating of equable or nearly equable thickness, enveloping our globe on all sides; or rather as an aerial ocean, of which the surface of the sea and land constitutes the bed, and whose inferior portions or strata, within a few miles of the earth, contain by far the greater part of the whole mass, the density diminishing with extreme rapidity as we recede upwards, till, within a very moderate distance (which is not more in proportion to the globe on which it rests, than the downy skin of a peach in comparison with the fruit within it,) all sensible trace of the existence of air disappears.

Arguments, however, are not wanting to render it, if not absolutely certain, at least in the highest degree probable, that the surface of the aerial, like that of the aqueous ocean, has a real and definite limit, beyond which there is positively *no* air, and above which a fresh quantity of air, could it be added from without, or carried aloft from below, instead of dilating itself indefinitely upwards, would, after a certain very enormous but still finite enlargement of volume, sink and merge, as water poured into the sea, and distribute itself among the mass beneath.

Whichever idea we adopt, it is equally certain that, within those limits in which it possesses any appreciable density, its constitution is the same over all points on the earth's surface; that is to say, on the great scale, and leaving out of consideration temporary and local causes of derangement, such as winds, and great fluctuations, of the nature of waves, which prevail in it to an immense extent: in other words, that the law of diminution of the air's density as we recede upwards *from the level of the sea* is the same in every column into which we may conceive it divided, or from whatever point of the surface we may set out. It may therefore be considered as consisting of successively superposed strata or layers, each of the form of a spherical shell, concentric with the general surface of the sea and land, and each of which is *rarer*, or specifically lighter, than that immediately beneath it; and *denser*, or specifically heavier, than that immediately above it. This kind of distribution of its ponderable mass is necessitated by the laws of the equilibrium of fluids, whose results barometric observations demonstrate to be in perfect accordance with experience.—*Herschel.*

EPITAPH ON A MINERALOGIST.

[By Mrs. Hemans.]

Stop, passenger, a wondrous tale to list—
Here lies a famous mineralogist!
Famous, indeed,—such traces of his power
He 's left from Penmanbuch to Penmanmawer,—
Such caves, and chasms and fissures in the rocks,
His works resemble those of earthquake shocks;
And future ages very much may wonder
What mighty giant rent the hills asunder;
Or whether Lucifer himself had ne'er
Gone with his crew, to play at foot-ball there.
His fossils, flints and spars of every hue
With him, good reader, here lie buried too!
Sweet specimens, which toiling to obtain,
He split huge cliffs like so much wood in twain:
We knew, so great the fuss he made about them,
Alive or dead, he ne'er would rest without them,
So to secure soft slumber to his bones,
We paved his grave with all his favorite stones.
His much loved hammer's resting by his side,
Each hand contains a shell-fish petrified;
His mouth a piece of pudding stone encloses,
And at his feet a lump of coal reposes:
Sure he was born beneath some lucky planet,
His very coffin plate is made of granite!
Weep not, good reader! he is truly blest,
Amidst chalcedony and quartz to rest—
Weep not for him! but envied be his doom,
Whose tomb, though small, for all he loved had room
And, O ye rocks! schist, gneiss, whate'er ye be,
Ye varied strata, names too hard for me,
Sing 'O be joyful!' for your direst foe,
By death's fell hammer, is at length laid low.
Ne'er on your spoils again shall —— —— riot,
Shut up your cloudy brows, and rest in quiet!
He sleeps—no longer planning hostile actions,—
As cold as any of his petrifactions;
Enshrined in specimens of every hue,
Too tranquil e'en to dream, ye rocks, of you.

An English lady said to the Persian Ambassador in London, in the gloomy month of November, when the weather was always thick and cloudy, 'is it possible you can be such idolators, in Persia, as to worship the sun?' 'Yes, madam,' he replied, 'and so would you, in London, if you ever saw him.'

Professor Winthrop of the University in Cambridge, and one of the first philosophers of his time (1770) declared 'that he found nothing to rest his faith and hope of immortality upon but the gospel; and that all other systems of religion were defective and unsatisfactory.'

CUSTOM HOUSE, NEW BEDFORD.

Agreeably to an act of Congress, a large building has been lately erected, for a Custom House, in the enterprising and flourishing town of New Bedford, Massachusetts. There are several elegant buildings in that place; two new churches are now being erected; and there are perhaps more spacious dwelling houses, than in any town, of similar extent, in the country. The navigation has much increased within ten years; and is still in a prosperous state. A Custom house was much needed. The business in that department was all transacted in a small chamber, where the collector, clerks, and merchants were much crowded, and great interruptions must have occurred to every one, whether merchant, or officer of the Customs.

The new building for the above purpose is on Second street, and within fifty rods of most of the wharves; and is on ground of about fifty feet elevation above the tide of the harbor or river. The building is fifty feet in front, and fifty-two in the rear, exclusive of projections. The height is thirty feet. The portico is not entirely finished; but it is of hewn granite, with four columns, entablature, pediment, &c. of the same material. The whole building is of the Hallowell granite, the face is split jointed in regular course. The underpining, pilasters, front doors, stiles, steps, platform, butresses, cornices, &c. are of fine hammered work. Indeed, all the ornamental work is smooth-dressed granite. There are four chimnies running up in the centre of the roof, so as to form a square for an observatory, of about ten feet square, enclosed with an iron railing. The floors are all vaulted with brick groin arches, and the spandrells levelled with stone and mortar. On these are placed small joists, to which the floors are fastened; and the floors for all the building are of hard pine.

The upper or principal story is partitioned as follows: the hall of the Customs is forty-eight feet by eighteen; and the height of the story is sixteen feet. To this story there is a flight of stairs or steps of free-stone, the workmanship of which is not surpassed by any which we have ever seen. There are twenty-two steps. The rooms below are similar to those above. The Post office is now kept in the space below the large Custom house room, already described. The entry and stairway are spacious; and all the partitions are built with stone. The whole building is plastered with three coats on the stone wall and arches. The work is composed of the most durable materials; and the building may be justly said to be fire-proof. The basement is strictly so. The building is to be enclosed with a stone and iron fence. The precise cost, we are unable to give; but it is estimated at 30,000 dollars. The elegant mansion of G. T. Baker, Esq. included in this view, stands a little on the left, or south of the Custom house.

An honest Dutchman said, 'he did not zee how de peepel all got a liffen in de ceete; dey all stant or waak about, and don't work once.' His neighbor who heard the remark, said he would explain the mystery, 'I tell you Hans, dey folloe sheaten one anoder; and dat dey call piziness, and dats de way dey kits a liffen.'

PROVIDENCE AS MANIFESTED THROUGH ISRAEL.

[An Address to the descendants of Abraham. By Miss Martineau.]

'The peculiarity by which your nation has ever been honorably distinguished from all others is an aversion to form *systems* of religion. While, among heathen nations, princes and priests formed laws and created mythologies which the ignorant multitude adopted as soon as offered, your lawgivers dispensed only what they had received from above, and your fathers required evidence that the dispensation was from above, before they would adopt it. While the mysteries of paganism were concealed in the recesses of Egyptian temples, your fathers were assembled at the foot of Sinai, listening to the thunders and watching for the disclosures of the cloud in which the glory of God was shrouded. Your prophets and priests bowed themselves before God as children who would know the will of their father; while the wisest of less favored nations withdrew into grottoes and groves, or approached oracles of their own institution, pretending to commune with nymphs or demigods, but in reality seeking to invest the imaginations of their own hearts with the sanctity of a supposed revelation from on high. The issues were evident to the whole world; the state of the Hebrew nation as to religion, morals, and legislation, being as superior to that of all their contemporaries as the moving pillar of fire was more awful than the descent of Belus, the Mosaic law more exalted than the twelve tables, and the Hebrew judges wiser than their heathen legislators. As long as none presumed to add to or to diminish from the word which the Eternal imparted, his people were glorious, enlightened, and blessed; while the sages of the heathens could not attain to the wisdom of the least among the sons of Israel.

'This unreserved submission to the voice from heaven is not, however, inconsistent with the desire and the endeavor to understand, as far as possible, the designs of that Providence whose guidance is acknowledged. Though there is sin and folly in seeking to forestall or change the divine counsels, there is piety and wisdom in striving to comprehend them when they are disclosed; because that obedience must ever be the most perfect which is the most enlightened. Moses was reproved for his backwardness in fulfilling his mission to his brethren in bondage, and vengeance from the Lord followed Jonah when he would have evaded his duty of prophesying destruction to Nineveh, because in both cases these prophets ventured to prejudge the event which was in the hand of God: but the people were also rebuked when they yielded a blind external obedience only, instead of the ready co-operation of the heart with the will of God; and were perpetually exhorted to examine into and understand his ways, that their obedience might be not only strict but enlightened.

'The duty of ascertaining the Divine purposes from his dispensations becomes more important as the facilities for the investigation are multiplied. The more ancient the dispensation, the more easy it becomes to understand its object. Ezra the scribe, and the people who listened to him as he read the law, were better able to comprehend the designs of the Allwise in separating his people from the rest of the world, than the judges who were under Moses; and those judges knew more concerning this dispensation, than any one of all the multitudes on the day that they crossed the Red Sea. These designs of Providence have also been growing clearer and clearer to this day; and it therefore becomes more and more the duty of all who acknowledge that Providence, to search into his ways, and see how the spirit of man may best co-operate with God for the sanctification of man.

'In such an investigation there is no danger, as long as the inquirer is careful to admit no evidence but that which God himself has given. It is indeed the highest and holiest employment in which the human faculties can be occupied, and as acceptable to him who loves the obedience of an understanding heart, as it is salutary to the heart itself. As long as men interpret, instead of imagining the ways of God; as long as they seek to know, instead of presuming to dictate his will, they may hope for some portion of that favor which blessed the child Samuel in the tabernacle, which distinguished David as "the man after God's own heart," and magnified the wisdom of the mighty Solomon.

'Hesitate not, therefore, to enter on a full investigation of the designs of the Allwise in separating your nation from other nations, and in calling you peculiarly his own. Dismiss from your minds, as far as you can, all remembrance of the religious systems framed by man with which people of other modes of faith have disgusted you. Repel, with the reprobation they deserve, all attempts to mix superstition with the worship which the Eternal established among you. Cast out as impious all suggestions which would change your views of the nature and attributes of the One God, and the offices of his chosen prophets; and taking for your guides only the scriptures of your people, and the history of your nation and of the world, endeavor to trace those ways and thoughts, which, however higher than ours, are placed in some degree within the reach of our comprehension; which, however shrouded in the future, are disclosed in the past.

'The best method by which an individual can pursue such an inquiry as is now proposed, is to collect all the evidence he can obtain, and deduce from it the truth he seeks. This is the mode in which a solitary student should proceed. But when several inquirers are invited to advance together, and are conducted by one who has gone over the ground before them, the method may advantageously be reversed, for the sake of proceeding in a clear and ordinary manner: as in the schools, where a definite object is first placed before the view of the students, and then the sources of evidence are laid open to them by which they may establish the truth for themselves. Such a method will now, for the sake of clearness, be pursued. The apparent design of the Eternal in his providence towards the Hebrew nation will be first disclosed, and evidences of this design will be afterwards offered to your consideration.

'The *plan* of Providence is a strictly correct expression; because, though time and eternity are alike to the One God, though to him "one day is as a thousand years, and a thousand years are as

one day,' yet, as his children are weak in sight and narrow in comprehension, they cannot see the end from the beginning, but only understand it by slow degrees. By the gradual developement of a plan only can they so far comprehend anything that exists, as to be able to use their bodily power in action, and the faculties of their mind in understanding. If the fruits of the earth were not brought forth according to a regular plan, if the soil and the dews, and the sunshine and the seed, were not perceived to be adapted to produce the corn, there would be no seed-time and no harvest among men; for no one would comprehend how it could be in the power of man to raise food out of the ground, and the whole race must be nourished, like your fathers in the wilderness, by miracle, or not at all. The whole of the creation was conducted by a plan; the preservation of created things is ordered by a plan; the destinies of the human race, spiritual as well as material, are also evolved according to a plan;—mysterious, like other plans, in its commencement, but growing more and more intelligible as it is gradually disclosed, and more and more evidently harmonious with other plans, and with all that is known of Him who ordained the whole.

Before a plan can be comprehended, its object must be discerned. In contemplating the plan of Providence, this consideration causes no difficulty or delay; for all who acknowledge the Eternal, acknowledge his inseparable attributes, his wisdom, his justice, his boundless love; and by the existence of these attributes are men assured that in his dealings with the human race his object is to promote their perfection and happiness. While no individual is forgotten before him, the progress of the race is advanced by all his dispensations. While some are favored with peculiar privileges, it is for the sake of mankind that those privileges are conferred; and while your nation has been distinguished by a closer communion with him than has been enjoyed by any other, the promise has not been forgotten, that in the seed of Abraham should *all* the families of the earth be blessed.

The history of the world shows how difficult, if not impossible, it is for the unassisted reason of man to attain to the notion of One God, who should be at the same time the creator of all things, the preserver of the whole universe, the moral governor of all rational beings. Every nation on the face of the earth has had an idea of Deity, but always under the form of a plurality of gods. Some few men, philosophers here and there among the heathens, have attained the notion that the same Being might create and preserve, that there might be One Governor among many people, that One Almighty Will might dispense happiness and misery; but these instances are so few and scattered, that they produce no visible effect on the spiritual advancement of the race. If it had not been for the revelation vouchsafed to your fathers, the whole world might now have been sunk in the ignorance of polytheism; since the light of nature appears too feeble to lead men to a knowledge of the Eternal, till after the lapse of more ages than the world has yet existed. It appears then to have been in the everlasting counsels of the Allwise to communicate the grand truth of his existence and government by a revelation; and in the mode of making and conducting this revelation may be found as powerful an evidence of the wisdom and love of the Father of men as the human mind is capable of receiving.

The object of revelation was to give to *all men* the knowledge of the true God. If the revelation had been made to every individual, a degree of perplexity might have prevailed among so many particular experiences, and the attention of the careless would not have been so intently fixed as by a national dispensation. If a separate revelation had been made to every people, the Eternal would have been regarded by each as a national God, as it is well known he was long considered by your fathers, who, while they worshipped the God of the Hebrews, supposed that other nations might each have a god, though inferior to their own. The method adopted was therefore neither to give a separate revelation to individuals nor to all nations, but to take one people under the special tutelage of Providence, in the sight of the whole world, that through this favored nation the true God might be made known to the human race at large. From the days of Abraham until now, your nation has, for this purpose, been the most conspicuous object in the annals of humanity.

LEECH-FISHERY.

The demand for the medicinal leech is so great as to afford considerable employment to a number of persons in catching and selling the animal. The leech is common throughout Europe, America and India, inhabiting lakes and pools; and large quantities are imported into this country from Bordeaux and Lisbon. They are caught in spring and autumn, by people who wade into the pools, and allow them to fasten on their limbs; or more generally the catchers beat, as they wade in, the surface of the water with poles, which sets the leeches in motion, and brings them to the surface; when they are taken with the hand and put into bags. As they come to the surface just before a thunder storm, this is regarded a good time for collecting them.

The following interesting account of the leech-fishery of La Brenne is from the Gazette des Hopitaux. 'The country about La Brenne is, perhaps, the most uninteresting in France; the people are squalid, the cattle wretched, but the leeches are admirable. If you pass through La Brenne, you will see a pale straight-haired man, with a woollen cap on his head, and his arms and legs bare; he is walking along the edge of a marsh, among spots left dry by the surrounding waters; he is a leech-fisher. To see him from a distance—his wo-begone aspect—his hollow eyes—his livid lips—his strange gestures—you would take him for a madman, who had escaped from his keepers. If you observe him every now and then raising his legs, and examining them in succession, you would suppose him to be a fool;—but he is a dexterous leech-catcher. The leeches attach themselves to his legs and feet as he moves among their haunts; he feels their presence from their bite, and gathers them as they cluster about the roots of the bulrushes, or under the stones

that are covered with a green and gelatinous moss. Some are resting on the mud, while others swim about, but so slowly that they are easily gathered with the hand.

'In a favorable season, it is possible in the course of three or four hours to stow ten or twelve dozen of them in a little bag, which the gatherer carries on his shoulder. Sometimes you see the leech-fisher armed with a kind of spear, with which he deposits pieces of decayed animal matter in places frequented by the leeches; they soon gather round the prey, and are themselves gathered into a little bucket of water. Such is the leech fishery in spring.

'In summer, the leech retires into deep water; and the fishers have then to strip themselves naked, and walk immersed up to the chin. Some of them have little rafts to go upon; these are made of twigs and rushes, and it is no easy matter to propel them among the weeds and aquatic plants. At this season, too, the supply in the pools is scanty; the fisher can only take the few that swim within his reach, or those that get entangled in the structure of his raft.

'It is a horrid trade, in whatever way it is carried on. The leech gatherer is constantly more or less in the water, breathing fog and mist, and fetid odors from the marsh; he is often attacked with ague, catarrhs, and rheumatism. Some indulge in strong liquors, to keep off the noxious influence; but they pay for it in the end by disorders of other kinds. But with all its forbidding features, the leech-fishery gives employment to many hands: if it is dangerous it is also profitable.

METEORIC PHENOMENON.

The Greenfield Mercury (State of Massachusetts, on Connecticut river) of the 25th of October, contains the following paragraph.

'Our citizens were suddenly startled, last Sunday evening, a little after seven o'clock, by an explosion resembling sharp thunder. It was so violent that the houses, generally, were shaken, as if by an earthquake. The explosion proceeded from a blazing meteor, which shot through the sky with great rapidity. It appeared to pass from a point a little north of east, and pass directly over our common to a point a little south of west. Its light was very brilliant. Its form resembled that of a comet; having a nucleus about the size of a thirty-two pound shot; from which there proceeded a train some feet in length. It vanished suddenly, without any appearance of scattered fragments; and the report was heard about five minutes afterward; which indicates a distance of sixty or seventy miles. The meteor we hear, was also seen in several adjoining towns. Another meteor exploded, it is said, about one o'clock the same night, and cast a fiery light before its explosion.' There is no account of stones discovered, as having fallen from this atmospheric body; and yet no doubt there were some. The explosion it appears was at some height; and the body being in rapid motion, the fragments will be found, if ever, at some distance from Greenfield. These bodies always move with great velocity; whether owing to a projectile force wholly, or to the motion also of the earth on its axis, in an opposite direction. The origin of these stones is matter of dispute, or rather of inquiry. But no theory has been offered to remove all difficulty and satisfy the learned, as to their formation, or the source whence they proceed. Some suppose the moon; some distant volcanoes; and some the disruption of planets; and some that they are formed in the upper regions of the atmosphere.

AMERICAN CEMENT.

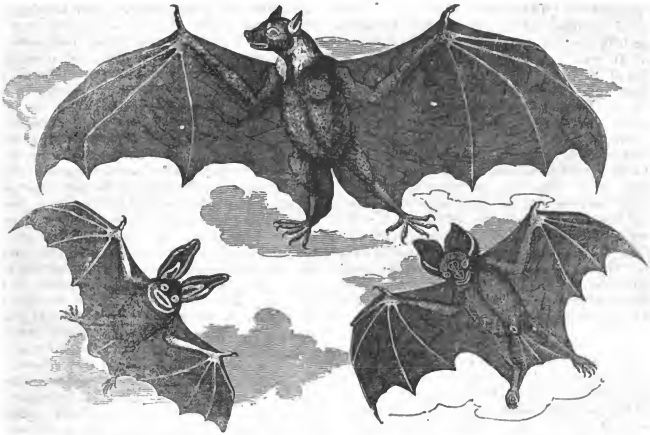
This name has been lately given to a geological compound, so arranged that it crystallizes into perfect stone. It is now well settled, that we can prepare the constituent parts of various rocks so as to render them subject to the laws of affinity, which soon unites them into their former solid state. It is now generally believed that all rocks were once in a liquid, or semi-liquid state, so as to admit of motion among their particles. As the laws of nature are immutable, it is obvious that if the elements of various rocks are brought into the same state, in which chance often throws them on the surface of the globe, their crystallization is certain. And sometimes we find fragments of different rocks and pebbles united by an intervening formation which has crystallized around them. Hence the production of artificial stone is as much the work of nature as the fruit of an apple-tree. When their natural products are being developed, we may vary the *soil* which gives nourishment to the latter, and the *elements* which enter into the composition of the former.—*Buffalo Paper.*

Granite at Kennebunk.—At the United States' quarry, in the village of Kennebunk-port, Maine, the granite is said to be very strong, rich and beautiful. Large quantities of it have been lately dug. It is now considered the best material of the kind for building, which has ever been used. It rings like iron, works easily, and has been subjected to a heat of seven hundred without flinching. The workmen have lately discovered a dyke or fissure, (which probably was caused by an earthquake) which, if planned and executed by the hand of man would have cost nearly one hundred thousand dollars. It has been cleared out in one place, to the depth of twelve feet. It is six feet wide, the wall perpendicular; and in most parts no bottom has yet been found.

The population of the principal American colonies eighty years ago, and twenty years before the Revolution, was as follows viz.

Massachusetts	220,000	Pennsylvania (including Delaware)	250,000
New Hampshire	30,000		
Connecticut	100,000	Maryland	55,000
Rhode Island	35,000	Virginia	85,000
New York	100,000	N. Carolina	45,000
New Jersey	60,000	S. Carolina.	30,000

It is stated in a late English paper, that a man lifted and stacked twenty tons of hay, in ten hours. This was a good day's work, and it is hoped the man was excused from labor the rest of the day.



VAMPYRE, OR BAT.

The terrific Vampyre of the credulous vulgar, so often mentioned by writers of the marvellous, with imaginary power to suck the blood of infants and others in sleep, is none other than the Bat. This animal belongs to the genus mammalia, and partakes of the order of quadrupeds and birds. It is sometimes called 'a flying mouse.' It has a tegumentary membrane extending over the bones of the extremities, so as to constitute wings, capable of sustaining them and conveying them through the air; and are therefore sometimes called *hand-winged*. There is a great variety of species. But they are all nocturnal, and during the day remain in hollow trees, caves, &c. and all have very sharp, cutting and acutely tuberculated jaw-teeth; and they bite with great force, which has probably given rise to the wonderful stories of their nightly attacks on children. And no doubt there have been cases of their biting the face or throat of persons in their sleep. In the mammoth cave in Kentucky, millions of these disgusting animals congregate during the winter season, and are to be seen in clusters at a great distance from the entrance. They have the sense of feeling, or touch in an unequalled degree. Their soft velvet wings enable them to fly without noise, and with great rapidity. It is said they are often covered with what are usually called the bed-bug; and that they are often probably the means of introducing them into our houses.

MALTA.

This is a small island in the Mediterranean sea, nearly sixty miles south of Sicily, and two hundred from Africa. It can hardly be said to belong to any country or government. It seems not to have been thought worthy of notice by the ancients. In the most prosperous and refined age of Rome, the few inhabitants on it were called barbarians. It was then probably neither a garrison, nor a place of trade. It becomes of interest chiefly as the place where St. Paul was shipwrecked, on his way from Palestine to Rome, to be tried by the emperor on a malignant charge of the Jews. They wished to destroy him because he was a Christian; and he was obliged to appeal from their unjust accusation to Cesar. He there might hope for more justice. But it appears he did not obtain it. The Christians were then accused of being atheists, because they would not worship the gods of the heathens; and to raise the popular rage against them were accused of various crimes. But the faithful and holy Apostle had the opportunity of preaching the gospel in the great city of Rome; and some of his hearers and converts were officers or servants of the emperor.

The account of this voyage and shipwreck given by Luke, in the twenty-seventh chapter of Acts, is very natural and interesting. It should be remembered that navigation was then almost in its infancy, and vessels far less capable of enduring the tempest and the waves.

With a small island about three miles distant, it contains 170 square miles. On the southwest, it rises to the height of 1200 feet; and some parts are

very precipitous. The eastern part is low, where is one of the finest harbors in the Mediterranean. In the 16th century it became a place of importance. It was then ceded by Charles V. to the knights of St. John of Jerusalem, who had been expelled from Rhodes by the Turks. They fortified it, and rendered it a strong place. When it was besieged by the Sultan Solyman, a few years after, with a large fleet, the Ottoman power was defeated, after a long and memorable siege. The knights had quiet possession till the close of the last century; when Napoleon, on his way to Egypt, took it by surprise. It has since come into possession of the British, and they still hold it. The present population of Malta is about 100,000, besides the soldiers and strangers, estimated at about 3000. The small island near it contains nearly 17,000. The harbor is very spacious and safe; and the armed ships of the United States often make it a resting-place.

FEATS OF MAGIC.

[From 'Brewster's Natural Magic.']

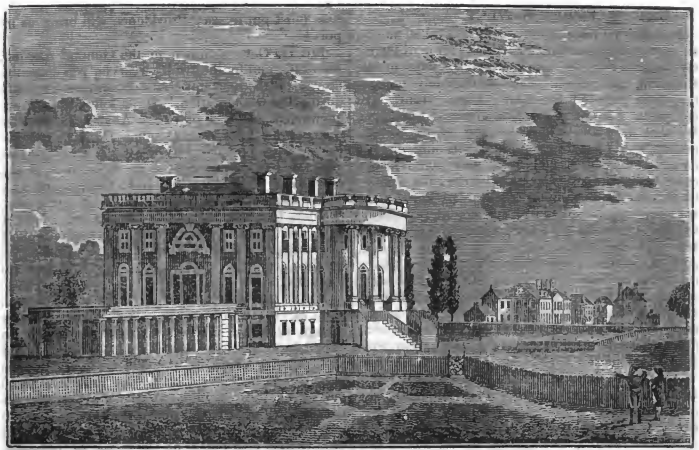
One of the most ancient feats of magic was the art of breathing flame,—an art which even now excites the astonishment of the vulgar. During the insurrection of the slaves in Sicily in the second century before Christ, a Syrian named Eunus acquired by his knowledge the rank of their leader. In order to establish his influence over their minds, he pretended to possess miraculous power. When he wished to inspire his followers with courage, he breathed flames or sparks among them from his mouth, at the same time that he was rousing them by his eloquence. St. Jerome informs us that the Rabbi Barchochebas, who headed the Jews in their last revolt against Hadrian, made them believe that he was the Messiah, by vomiting flames from his mouth; and at a later period, the Emperor Constantius was thrown into a state of alarm when Valentinian informed him that he had seen one of the body-guards breathing out fire and flames. We are not acquainted with the exact methods by which these effects were produced; but Florus informs us, that Eunus filled a perforated nut-shell with sulphur and fire, and having concealed it in his mouth, he breathed gently through it while he was speaking. This art is performed more simply by the modern juggler. Having rolled together some flax or hemp, so as to form a ball the size of a walnut, he sets it on fire, and allows it to burn till it is nearly consumed: he then rolls round it while burning some additional flax, and by these means the fire may be retained in it for a considerable time. At the commencement of his exhibition he introduces the ball into his mouth, and while he breathes through it the fire is revived, and a number of burning sparks are projected from his mouth. These sparks are too feeble to do any harm, provided he inhales the air through his nostrils.

The kindred art of walking on burning coals or red-hot iron remounts to the same antiquity. The priestesses of Diana at Castabala in Cappadocia were accustomed, according to Strabo, to walk over burning coals; and at the annual festival, which was held in the temple of Apollo on Mount Soracte in Etruria, the Hirpi marched over burning coals, and on this account they were exempted from military service, and received other privileges from the Roman senate. This power of resisting fire was ascribed even by Varro to the use of some liniment with which they anointed the soles of their feet.

Of the same character was the art of holding red-hot iron in the hands or between the teeth, and of plunging the hands into boiling water or melted lead. About the close of the seventeenth century, an Englishman of the name of Richardson rendered himself famous by chewing burning coals, pouring melted lead upon his tongue, and swallowing melted glass. That these effects are produced partly by deception, and partly by a previous preparation of the parts subjected to the heat, can scarcely admit of a doubt. The fusible metal composed of mercury, tin, and bismuth, which melts at a low temperature, might easily have been substituted in place of lead; and fluids of easy ebullition may have been used in place of boiling water. A solution of spermaceti or sulphuric ether, tinged with alkanet-root, which becomes solid at 50° of Fahrenheit, and melts and boils with the heat of the hand, is supposed to be the substance which is used at Naples when the dried blood of St. Janarius melts spontaneously, and boils over the vessel which contains it.

But even when the fluid requires a high temperature to boil, it may have other properties, which enable us to plunge our hands into it with impunity. This is the case with boiling tar, which boils at a temperature of 220°, even higher than that of water. Mr. Davenport informs us, that he saw one of the workmen in the king's dock-yard at Chatham immerse his naked hand in tar of that temperature. He drew up his coat-sleeves, dipped in his hand and wrist, bringing out fluid tar, and pouring it off from his hand as from a ladle. The tar remained in complete contact with his skin, and he wiped it off with tow. Convinced that there was no deception in this experiment, Mr. Davenport, immersed the entire length of his forefinger in the boiling caldron, and moved it about a short time before the heat became inconvenient. Mr. Davenport ascribes this singular effect to the slowness with which the tar communicates its heat, which he conceives to arise from the abundant volatile vapor which is evolved 'carrying off rapidly the caloric in a latent state, and intervening between the tar and the skin, so as to prevent the more rapid communication of heat.' He conceives also, that when the hand is withdrawn, and the hot tar adhering to it, the rapidity with which this vapor is evolved from the surface exposed to the air cools it immediately. The workmen informed Mr. Davenport, that if a person put his hand into the caldron with his glove on, he would be dreadfully burnt; but this extraordinary result was not put to the test of observation.

In 1682, Mr. Cotton, the pastor, and Mr. Cushman, the elder, of Plymouth church, petitioned the governor and court of that colony to reduce the houses in Plymouth, licensed to sell *strong drink*, from four to one.



View of the President's House, at Washington.

PRESIDENT'S HOUSE.

The city of Washington, in the District of Columbia, the capital of the United States, is built on the northeastern bank of the Potomac. The Tiber, which is not a large stream, runs through the middle of the city. The President's house is about half way between the capitol and Georgetown, and at the distance of a mile and a quarter. It is situated on a level piece of ground, of considerable extent, and not far above the level of the river. The capitol is on high ground, which gives it a more commanding appearance than the house for the President. This is set up somewhat from the ground, having a basement, and two other stories, of great height; yet it appears low compared to its horizontal extent. It is one hundred and eighty feet long, and eighty-five feet wide. In the centre of the building is a large oval drawing room; on the east is a very spacious room nearly square, and richly furnished at the expense of the government; and at the west end is a dining room, sufficient to accommodate one hundred, or one hundred and fifty persons. The audience chamber is in the upper story, at the southeast end of the building; and is sufficiently large to receive public officers, strangers, citizens on business, &c. The fences about the building and grounds, and the numerous trees planted within a few years, render the appearance much better than it was in the time of the three first presidents who occupied it.

This is the only Palace in the United States. The chief magistrates of the several states occupy houses of their own while in office, whether large or small. Governor Strong and Governor Brooks, two as worthy chief magistrates as Massachusetts was ever blessed with, lived in houses no way distinguished from the decent dwellings of many of the farmers, merchants or mechanics in the State. It is hoped this republican practice will long continue. The chief magistrate of the United States has justly a spacious house, while in office, at the charge of the nation, and for the honor of the nation; and yet we cannot but hope, that as little of European parade and display, and especially of luxury or extravagance, will be found there in future, as in years past since our republic was formed.

Indians.—The most wild and ignorant of the American Indians believe in the existence of one Great Spirit, who rewards the good and punishes the wicked. 'I was one day,' says a late traveller far into the interior of our country, 'speaking to a chief on the subject, and was endeavoring to impress on his mind some plain moral precepts, to which he listened with great attention. When I concluded, he raised his head a little, and with his eyes fixed on the ground, he said in a solemn tone, "the words you have spoken have sunk deep into my heart, and I shall often think of them when I am alone. It is true, I am ignorant, but I never lie down at night, without whispering to the Great Spirit a prayer for forgiveness, if I have done any thing wrong that day."'

American Silk.—A Mrs. Kimball lately attended the Fair of the Merrimack County Agricultural Society, at Concord, N. H. clad in rich and durable silk of her own manufacture. She procured the mulberry trees, raised the worms, reeled, twisted, colored and wove the silk with her own hands.

Iron steam boats it is said are now preferred in England, and are coming into general use.

JOSEPH HAWLEY.

Hon. Joseph Hawley may justly be ranked among the most decided and able advocates for civil liberty in Massachusetts, in the memorable days of the revolution, and several years immediately preceding, which prepared for that glorious event. He manifested a spirit highly indignant at the claims advanced and encroachments made by the British ministry, so fatal to our natural rights and charter privileges; and with great zeal and boldness opposed the attempts of parliament to tax the colony. Mr. Hawley was from Northampton, on Connecticut river; and no member of the general assembly, from the interior of the country, had so much influence as he had. The citizens of Boston, Salem, and other places on the sea-coast, where the measures of the British government relating to commerce, and the raising of a revenue, which were considered very arbitrary and oppressive, took the lead in opposing the policy of the parent state; and several of them must forever be acknowledged as the principal agents in the revolution. But decided, able and active men from the country towns are justly entitled to the praise of readily giving their support in the cause of freedom; and one of the most distinguished of them was Joseph Hawley.

He was born at Northampton, in 1724, and graduated at Yale college in 1742. He chose the profession of law, and was one of the most distinguished counsellors in Massachusetts. To be eminent in the legal profession, it is necessary that a man should study history and politics; especially relating to his own country and government. Mr. Hawley was well informed on these subjects; he understood the nature of the British government, and the great principles of the revolution in England, in 1688; and he became an admirer of the eminent whigs in the British parliament, such as Pitt, Burke, &c.

In the year 1764 he was sent a representative to the general assembly of the province from his native town. And this was the time when the dispute began with the British ministry, as to the extent of the power of parliament over the colonies, and of the rights of the people here to legislate for themselves. This controversy continued, with little interruption, till 1775; when the appeal was made to force, and the people in this country were obliged to draw the sword in defence of their natural and charter rights. Mr. Hawley declared publicly, more than a year before war broke out, 'that if we would preserve our liberties, we must fight for them.' This he said, not that he was a military character, or fond of military glory, but because we had petitioned in vain for redress nearly ten years; and an army was sent into the province to enforce oppressive laws. He said this in the same spirit in which James Otis observed, about the same period, 'that there was no rebellion in the province, (when the British minister pretended there was) but if armed men were sent here to enforce unjust laws, and to oppress the people, they would create one.' Another of Mr. Hawley's expressions at this period is recorded, which shows both his ardor and his confidence. The timid spoke of the danger of a contest with so powerful a nation. He replied, 'we must put to sea; Providence will bring us into port.'

Mr. Hawley continued in the General Assembly till 1776; and for the twelve years he was a member, he was on the most important committees appointed during the whole period. He is found joined with James Otis, Samuel and John Adams, James Bowdoin, John Hancock, Samuel Dexter, Jedediah Foster, &c. In the spring of 1775, he proposed and urged the fitting out of an expedition, to take possession of the forts on Lake George and Lake Champlain, to prevent depredations on our western frontiers from the Canadians and Indians; and to have part of the cannon brought to Cambridge. It was owing to his influence, that the measure was adopted; and it was proof of his judgment and foresight.

When the insurrection occurred in the western part of Massachusetts, in 1786, Major Hawley, though in feeble health and laboring under hypochondriacal affections, acted a decided and honorable part, in checking the spirit of the deluded people; and his efforts had a good influence with a portion of the inhabitants. He prevailed on the members of one Convention to dissolve, and return quietly to their homes. But a few busy and disorderly men again blew up the flame of rebellion; and an armed force was found necessary to quell it. Major Hawley was always distinguished for high and honorable principles. His integrity was unimpeached; and he gave evidence to his friends and neighbors that he possessed also the spirit of sincere piety; yet his last days were rendered gloomy by the feeble and morbid state of his constitution. He died in 1788, at the age of sixty-four.

By one of the principal writers of the history of Massachusetts, during the period of the dispute with Great Britain, previous to the war, he is said to have resembled Otis and Warren, in ardor and boldness of character. Wherever he witnessed the exercise of arbitrary power, or the efforts of those in office to injure and oppress their fellow-men, he was highly excited; and he feared no threats in pursuing his duty as a friend of liberty and his country. Such characters are important in a revolution; and yet others, of more prudence and moderation, must exert an influence to control the ardent, and to secure success, however just may be the cause.

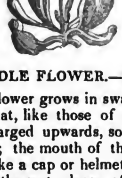
Whisky.—Since the Temperance reform began a much less quantity of whisky has been manufactured in the United States than formerly; but we regret to hear, that great quantities of grain are still used to manufacture this *poisonous* and *deadly* liquor, in some parts of the country. Whisky is an insidious beverage; and those who begin with it are often led on to drink it to excess. Indeed, the least quantity is unwholesome and an evil. The grain is also wanted for the comfortable support of the people in its natural state. Bread is nutritious, but whisky is a poison; and yet according to a late estimate given in a very respectable paper, in New York, there is annually manufactured into whisky, grain enough to make 250 000 barrels of flour!

[A View of Mount Ætna.]

Mount Ætna, though in the Island of Sicily, is said to belong to the range of the Apennines, which, taking its rise on the western frontier of Italy, runs eastward a great distance and then bends to the south, or southeast, according to the general course of the peninsula. In the southern part of Italy, or Naples, they have a volcanic and therefore terrific appearance. Vesuvius, near the city of Naples, frequently throws out a great body of burning lava, which sometimes destroys much property and many lives. And a great part of Calabria, an adjoining territory, is often convulsed by earthquakes.

This mountainous range extends across the straits of Messina, and through the large Island of Sicily. In this narrow strait, the range appears in a perilous form to the mariner, in the rocky eminences of Scylla and Charybdis. The celebrated peak of Ætna is the highest part of this mountainous range. It rises nearly as high as the most elevated part of the Alps: being nearly 10,000 feet above the level of the sea.

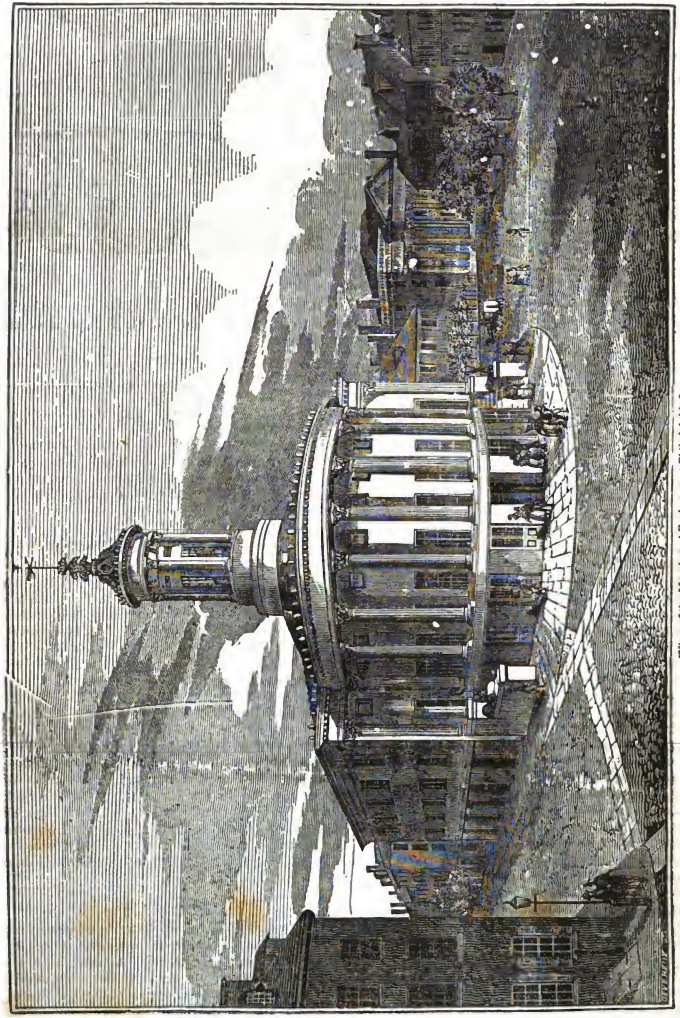
The circumference of this mountain, at the base is 180 miles; and on its sides are more than seventy cities and towns, with a population of 120,000. The ascent from Catania is thirty miles, and the traveller passes through three climates, as it were; the hot, the temperate and the frigid. A part is fertile and highly cultivated. The lava, after some time, adds much to the richness of the soil. The fruit, especially the figs, are the finest in the island. The atmosphere is redolent with the sweet perfume of the trees and fruit. The summit, however, is usually covered with snow and ice. The ascent is very difficult, especially near the top; but the extensiveness and grandeur of the prospect fully repay for all the labor. The milky way and the stars appear far brighter than from the common surface of the earth. The first eruption on record is mentioned by D. Siculus, who lived in the time of Julius Cesar. Before our era there were nine, which were very formidable; one about 120 years before our Saviour, was the most so. Since that period there have been fifteen; five in the present century, and the last of these in May, 1830. Seven new craters were then opened; eight villages with most of the inhabitants were destroyed. The scene of ruin could not be approached till eight days after the eruption.



SIDE SADDLE FLOWER.—Sarracenia.

This curious flower grows in swampy places; its leaves are not flat, like those of most plants, but tabular and enlarged upwards, so as to resemble a pitcher in shape; the mouth of this orifice is sheltered by a lid, like a cap or helmet. These leaves, notwithstanding the wet places of growth of the parent plant, which would not seem to require any reservoir of moisture to supply its wants, are always more than half filled with water. It has not yet been ascertained what are the properties of this fluid, which render it so inviting to insects; but myriads do enter, and die there; for no sooner has an individual entered the mouth of the tube, than he is apparently urged forwards by the rapidity of the descent, and by the circumstance of the neck of the tube being covered with thickly set hairs, all pointing downwards, so that his struggles to return are effectually prevented by the inverted position of these hairs, and fatigue presently makes him drop into the watery abyss below.

Caution.—The Taunton Gazette relates a case of insanity in that town, in the person of a lad of fourteen years of age, caused by a habit of occasionally standing on his head, as this mountebank feat is termed; thus inducing an undue fullness of the blood vessels in that region, and producing such a pressure on the brain as to interrupt its proper functions.



[View of the Merchants' Exchange, at Philadelphia.]

THE MERCHANT'S EXCHANGE.

The city of Philadelphia has long been famed for its many elegant public edifices. Two have been lately added to the former number. Girard's College, a very spacious and magnificent building, in the suburbs; and the Merchants' Exchange, nearly in the centre of the business parts of the city. The Exchange was erected in the year 1833; and is situated on Third, Dock, and Walnut Streets. It is large and elegant; and is as imposing in its appearance as any building in the city. The lot on which it stands is of a triangular form. The plan of the building is a parallelogram, 95 feet front on Third street, and 114 feet on Walnut Street, with a semicircular end of 36 feet radius; thus making the extreme length of the building, from east to west, 150 feet.

The building consists of a principal and of attic stories, supported by a massive basement, fifteen feet high, (which is the Post-office,) composed of piers and columns with bell capitals, ornamented with the water-leaf.

The superstructure is ornamented with a recessed portico, of four columns and antæ on the Third street front, and a semicircular portico of eight columns and antæ on the eastern front. The capitals of the antæ are of the same character as those of the columns; and were wrought in Italy, by the best artists. The flanks are pierced with windows, corresponding with the openings in the basement story. The semicircular portico is crowned with a Vitruvian scroll, enriched with honeysuckles, instead of a Cyma, and forms a beautiful crowning member of the cornice. The building is considered one of the most beautiful specimens of Grecian architecture ever executed in America. The monument at Athens, which the modern Greeks call the lantern of Demosthenes, is the prototype of this splendid edifice. This relic of antiquity is said to give the richest example of Grecian Corinthian architecture to be found in ancient Attica.

The basement is appropriated for the Post-office, the business room of which is 74 feet by 35 feet; divided into three apartments; and there are three entrances into the Post-office from the streets. There is a large avenue communicating with Dock and Walnut streets; at right angles with this, is another passage of eighteen feet, leading from Dock to Third street. This is found to be a very convenient arrangement. The residue of the basement is divided into a number of apartments, occupied by Insurance offices, brokers, &c.

The large room, appropriated for the Exchange, is at the east end of the principal story, and extends across the whole building, and is entered by four flights of steps. The eastern portico is connected with the exchange room by spacious doorways, opposite the intercolumniations in the colonnade. This portico forms an interesting promenade for those who visit the Exchange; from it may be seen the shipping at Walnut street wharf; the Custom House, the Girard Bank may also be seen from it; and the Pennsylvania Bank, a beautiful Grecian Ionic structure, is in full view. The internal arrangements of the exchange room are bold and effective. The ceiling is ornamented by a painting of commerce, beautifully executed. The lantern, by which light is received from above, is supported, in this room, by four marble columns, of the same dimensions as those in the front colonnade, and crowned with the same kind of capitals. This room extends from the floor of the principal story to the roof, occupying the whole height of the superstructure; and it is heated by furnaces in the cellar. Adjoining the exchange room, and directly over the Post-office, is a reading room, forty-six feet by thirty-five. On the front on Third street are two spacious rooms, for stockholders; and the rest of the space is divided into commodious rooms for brokers and others, furnished with convenient fire-proof closets.

The Exchange was built by the merchants of Philadelphia; and it is now the starting point for all those splendid lines of omnibuses which run up and down the principal streets of the city. When will the opulent merchants of Boston cause to be erected an Exchange equally convenient and elegant.

THE PRESS, when judiciously managed, is one of the greatest blessings of a civilized people; when *abused*, it is the most powerful instrument of mischief. Perhaps, no civil privilege in this country is so much perverted and abused. In no country is reputation held so cheap. Slander, like the scythe of death, levels all worth and distinction; the press, one of the noblest instruments of improvement, is converted into an instrument of deception, and the means of making citizens hate and slander each other. The moral effect of this abuse is lamentable, for it seems to have become a common belief of partizans, that a man has a *right* to defame those who differ from him in opinion. At present, no reputation is safe; especially that of a man in public life. What a great improvement shall we witness in the press, when facts shall be carefully collected, and fairly published; and when principles and views shall be discussed with candor, without assailing character and motives.—*Noah Webster*.

DEATH—AN EXTRACT.—By J. G. Percival.

[From the Knickerbocker.]

'T is good to think on death—it bends the will
From that stern purpose, which no man could hold
And yet be happy: we must go and fill
Thought with affection, where pale mourners fold
The shroud around those chill limbs, whose fair mould
Imagined unearthly beauty. Why not blend
With tears awhile, and leave that stern, that cold
Contempt of all that waits us, when we end
Our proud career in death, where all, hope lifted, bend.

'T is good to hold communion with the dead,
To walk the lane where bending willows throw
Gloom o'er the dark green turf, ere day is fled,
And cast deep shadow on the tomb below;
For as we muse thus silently, we know
The worth of all our longings, and we pay
New worship unto purity, and so
We gather strength to take our toilsome way,
Which must be meekly borne, or life be thrown away

THE TWO LEGGED CAT.

This *lusus naturæ* is described in a late English work, and is to be considered as a monster, and not as one of a species. The mother was of the tortoise shell kind; and she brought forth five besides this, at the same time; and they were perfectly formed. Except the want of two legs, the animal appeared healthy, and took food as the others did. She was active, and would leap on a table, to the height of three or four feet. Her gait is odd, as might be supposed, and often she leaps like a frog. She does not appear fond of very young kittens, though she sports with them when a little older. She is represented as being very cleanly. She does not dislike to be noticed, but yet seems not pleased to be taken up and nursed. She frequently sits in the posture as given in the annexed drawing, especially when expecting to receive food; and her appearance is very singular and rather ludicrous. Though destitute of claws, she is a good mouse-catcher. The tail is usually extended, and then she resembles somewhat that singular animal, the kangaroo.

EXTRACT OF A LETTER FROM SIR J. HERSCHEL,

Who is in the vicinity of Good Hope, for the purpose of astronomical discoveries and observation of the more southern celestial appearances. Dated June, 1836.

'The general aspect of the southern circumpolar region, is very rich and magnificent, owing to the superior brilliancy and larger development of the Milky Way; which from the constellation of Orion to that of Antinonus is in a blaze of light; strangely interrupted, however, with vacant and almost starless patches; especially in Scorpio, near Centauri and the Cross; while to the north it fades away, pale and dim, and is hardly traceable.

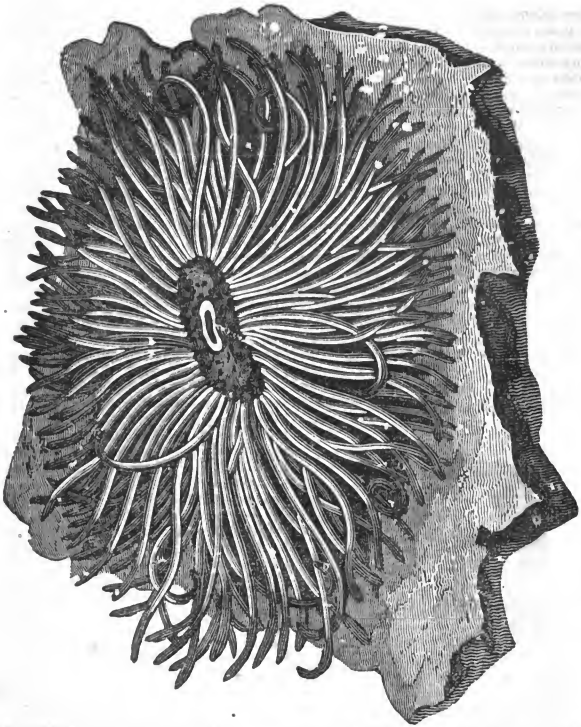
'I think it is impossible to view this splendid zone, with the astonishingly rich and evenly distributed fringe of stars of the third and fourth magnitudes, which form a broad skirt to its southern border, like a vast curtain, without an impression amounting to a conviction, that the Milky Way is not a mere stratum, but an annulus; or at least, that our system is placed within one of the poorer and almost vacant parts of its general mass, and that eccentrically, so as to be much nearer to the parts about the cross, than to that diametrically opposed to it.

'The two Magellanic clouds, Nubecula Major and Minor, are very extraordinary objects. The greater is a congeries of stars, clusters of irregular form, globular clusters and nebulæ, of various magnitudes and degrees of condensation, among which is interspersed a large portion of irresolvable nebulæ, which may be, and probably is, star dust, but which the powers of the twenty feet telescope show only as a general illumination of the field of view, forming a bright ground on which the other objects are scattered. Some of the objects in it are of very singular and incomprehensible forms; the chief one especially (30 Doradus) which consists of a number of loops, united in a kind of unclear centre or knot, like a bunch of ribbons disposed in what is called a true lover's knot. There is no part of the heavens where so many nebulæ and clusters are crowded into so small a space as this 'cloud.' 'The Nubucula Junior' is a much less striking object. It abounds more in irresolvable nebulous light, but the nebulæ and clusters in it are fewer and fainter, though immediately joining to it is one of the richest and most magnificent globular clusters in the hemisphere (47 Toucani). It is somewhat singular that this nebucula is placed a full hour too late in Right Ascension in all maps and catalogues, probably owing to a misprint or other similar cause of error, in the authorities employed to construct them.

'The great nebulæ in Orion and Argi are, however, by far the most surprising objects this hemisphere presents. The former appears to much greater advantage than in our latitudes, and presents many appendages, branches, and convolutions, which are not discernible in its low situation in Europe. The latter is an object *sui generis*, and which, without a figure, it would be useless to attempt a description of.

'The planetary nebulæ of the southern circumpolar sky are numerous (for the class of objects) and highly characteristic. I have discovered no less than five, quite as sharply terminated in their discs as planets, and of uniform light. Indeed, the first on which I fell was so perfectly planetary in its appearance, that it was not until several observations of it at the Royal Observatory, by Mr. Maclean, had annihilated all supposition of its motion, that I could relinquish the exciting idea that I had really found a new member of our own system, revolving in an orbit more inclined than Pallus.

'You may form some idea of this, as regards clearness of sky, from what was told me by our provisional governor, Colonel Bell, viz. that out of forty-two successive days, he had only three times been disappointed in finding Venus, with the naked eye, in broad sunshine, (at 8 A. M.)'



ZOOPHYTES.—(VERMES) ACTINIA CEREUS.

This species of *actinia*, a genus of zoophytes, is of obscure origin. In form it is conical, or cylindrical; often without any viscus, excepting its cavity, and sometimes with a visible stomach. They are capable of forming compounds, by shooting new buds, or individuals. They generally unite themselves to a broad and flat part of a rock. Some of them are of various colors; and they have numerous *tentaculæ* round the mouth, somewhat like the petals of a double flower. When they retract these, the opening contracts and closes like the mouth of a purse. The *tentaculæ* of the *cereus* zoophyte are long, thread-like, and quite numerous; generally found adhering to rocks in the Indian ocean. The Pacific ocean also abounds with similar productions; and they serve to increase our wonder at the infinite variety of the works of nature.

CRITICS AND CRITICISM.

I am not certain that critical remarks are appropriate to your magazine, or whether they can be called 'useful or amusing.' But I conclude that variety is the object, so that neither good morals nor entertainment be opposed. And yet it may be sometimes *useful*, perhaps *amusing*, to notice and compare critical writers. Criticism is often justifiable; but when the assumed critic discovers partiality or prejudice, he may well be criticised himself. Of all men, the critic should be impartial and independent; 'setting down nought in fear or favor;' but speaking the truth in charity, yet in all good fidelity.

But not to deal in general remarks, I will refer to two late periodicals, the conductors of which undertake to be critics, and to give the character of recent publications. Now, if they are both good critics and men of taste and candor, how is it that they give totally different opinions of the same work.

The North American Review speaks of Mr. Willis' poems and other publications in unmeasured terms of praise and eulogy. Language is exhausted in the use of epithets to express its admiration of the beauty, richness, strength and various excellencies of the composition. Nothing but superlatives satisfies the reviewer in pointing out the striking imagery, and flights of imagination and elegance of diction of Mr. Willis' books. His object seems only to be to commend and to eulogise; and a sober man cannot help considering it the work of a very partial and personal friend of Mr. Willis. There are many just remarks of the reviewer; but taken as a whole, it is an indiscriminate puff.

The editor of the Monthly is on the other extreme. He betrays hostility, or envy, which the true critic should never cherish. His censure is as general, indiscriminate and sweeping, as the praise of the other reviewer. It is manifestly improper to indulge in such feelings and expressions; the critic can get no credit by it. It is seldom entertaining, and never useful. Criticism should be fair, impartial and candid; it may then do the writer reviewed some good, and will be a benefit to the reader. Legitimate criticism is never found in extravagant and indiscriminate praise, nor in unjust and unfounded censure. A.

REV. JOSEPH S. BUCKMINSTER.

Mr. Buckminster was several years the faithful and beloved pastor of the church and society in Brattle-square, Boston. He was ordained in January, 1805, and died in June, 1812, at the age of twenty-eight years. He was born in Portsmouth, New Hampshire, where his father was a highly respectable clergyman for many years. His mother was a daughter of the Rev. Dr. Stevens, of Kittery, and is represented as a woman of a very cultivated mind, and an excellent disposition. Mr. Buckminster was ordained over the society in Brattle-square before he was twenty-one years old; but he was even then a ripe scholar, and deeply imbued with the spirit of his sacred office. He was one of the most remarkable instances of precocious intellect the country has produced. At the age of seventeen he composed with the correctness, strength and elegance of a veteran writer; and his works are proof of great learning, a strong imagination, and discriminating judgment. The facilities for a regular and thorough theological education were in his time far less than at present. But a man of a strong and inquisitive spirit can overcome all difficulties, and will find a remedy for any defects in the systems commonly adopted. A powerful mind has resources of its own to guide, and to impel it, in a course of improvement. Mr. Buckminster wisely chose to examine first into the evidence of natural and revealed religion, and then to inquire what where the doctrines and truths of Christianity. He was not fond of controversial theology, and he seldom treated of doctrinal points, any farther than to state and urge the great and leading truths of the gospel, in which almost all sects of Christians agree. As a preacher he was truly eloquent, addressing both the understanding and the heart; every one was impressed, if not convinced; the cold were warmed, the careless roused, the penitent encouraged, and the piously-disposed comforted and cheered. In the devotional part of the public services of the sanctuary Mr. Buckminster was also very impressive, and deeply interested the feelings of the worshippers. At the time Mr. Buckminster was settled, his society contained more literary characters than any other in Boston; and he probably felt it a duty to prepare discourses in a more finished style of writing, than he would with a different audience.

But he never neglected to preach the doctrines and urge the duties of Christianity in all their purity and force. His aim was rather to instruct and improve, than to excite admiration, or to seek applause. And it is known, that many who had been careless and indifferent about religion, became serious believers and sincerely devout.

Mr. Buckminster was a distinguished biblical scholar. The bible was his study continually; and he sought to know the true meaning of difficult passages by consulting the original, and comparing the more obscure texts with the more plain, on the same subject. In biblical criticism, no one of his contemporaries surpassed him, and very few were his equals. Had his life been spared to the common age of man, he would probably have been ranked among the most eminent divines in the country.

The week before his death he preached before a religious society, composed chiefly of clergymen, and all admired the power and eloquence with which he spake. His discourse was on the importance of the union of the doctrines, duties and spirit of the gospel; or of faith, charity and virtue. He was subject to epileptic fits; and his death was caused by one of these fatal attacks.

Most of the eastern nations have very incorrect ideas of America. One of their writers on Geography says of it, 'Several Europeans have been to America; and though the air and water are pure and salubrious, there is neither civilization nor cultivation. They call it the new world!'

ANIMAL MAGNETISM.

A case of the mysterious influence, or power, to which we give the name of 'Animal Magnetism,' has lately occurred in Cambridge, near Boston. It was that of a female, who had been several years confined to her bed, had been subject to much pain and spasms, and had no sleep without the constant use of opiates.

She was asked by the physician, a scientific gentleman and a professor in the university, if she was willing to submit to the experiment, and she readily consented. The Doctor went through the manipulations several times without effect. But at last the experiment succeeded, so far as to put her to a deep sleep; such as is brought on by the magnetiser when successful in his operations. At another time the physicians were accompanied by some of their learned friends. She was awake, says the narrator, and when asked if she recollected me, she said she did. She was soon put to sleep again, as it seemed to me; but the Doctor asked her several questions, which she answered; as, whether she was in pain; but when another asked a similar question she made no reply. The Doctor went to a remote part of the room, and into the entry, closing the door; and in whispers and low tones of voice, which I could not hear, he put questions to her, which she answered. Sometimes she inquired, What is that you say? and when the questions were repeated, though so low as not to be heard by me, or others in the room, she heard and answered. Afterwards, her sleep was interrupted by slight spasms. Another medical gentleman present then became the magnetiser; after which she recognised his voice also, and answered the questions which he put to her; but not so to mine, though she knew me, when asked who was in the room. When asked if she heard my question; she said she heard a sound, but did not understand. When I bid her good night, she made no reply; but when the two physicians did, she responded to them.

BOOKS ON USEFUL KNOWLEDGE.

Messrs. Marsh, Capen & Lyon, of Boston, have just published a manual on raising silk-worms and cultivating mulberry trees, by M. Morin. Also a manual on the manufacture of sugar from beets, including the cultivation of the beet. These useful manuals are translations of the French originals. They each form a part of a series of manuals on the sciences and the arts, lately published in France, comprising treatises on most of the useful arts as well as the sciences. Both of these branches of industry are unknown to our State, but perhaps before many years they may open new fields of occupation for the industry of our people, and new sources of prosperity and wealth. It has been adverse to our native inhabitants, that with an unparalelled rapid increase of population in the country there has not been a corresponding development of new channels of industry, and that in most of the new enterprises in manufactures, in late years, our own citizens have been obliged to give place to foreigners. In each of these arts of raising silk and of making beet sugar, the whole field may be open to the native population. By making themselves acquainted with these and similar treatises they will have a sufficient knowledge of the arts to pursue them to advantage, with no further direction but their own energy and skill; and great numbers who now get a scanty support on hard earnings may no doubt find their labor well rewarded in these new pursuits. Some extracts from the work on beet sugar were given in the Magazine for October.

Miss Sedgwick, in her new book, entitled, 'The Poor Rich Man, and the Rich Poor Man,' says, 'it is believed that the *love of dress* is one great cause of the degradation and misery of young females.' This suggestion merits careful consideration. The novels of Miss Sedgwick contain many excellent sentiments and hints, and are of a good moral tendency.

The 'Boston Book,' lately publisned, is a popular work. The articles are selected by B. B. Thacher, the editor, with much taste and judgment.

The address of Mr. Homer, one of the editors of the Centinel and Gazette, before the Massachusetts Mechanic Charitable Society, at its late triennial celebration, is a sound, practical and judicious production. It is evidence of much reading and careful reflection; and the advice to his brother mechanics is seasonable and excellent.

A collection of Indian portraits and biographies is soon to be published; and is said to be one of the best finished productions of American art. The portraits are good likenesses, truly representing the Indian features and dress. The work is now being published in Philadelphia, by E. C. Biddle; and the biographical notices of the Indian chiefs and warriors, are chiefly by Col. Cass, late Secretary of War, and Col. M'Kenney, who was long at the head of the Indian Department, in Washington, and every way qualified for the work.

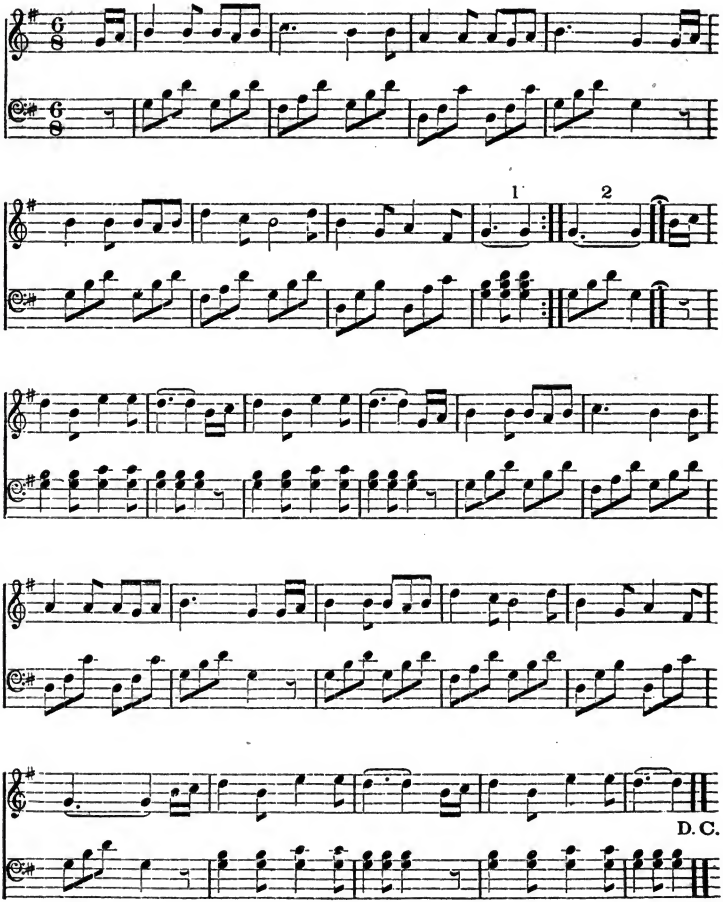
An astronomer of Palermo supposes he has discovered a new planet; and, from the apparent slowness of its motion, concludes its orbit is beyond that of Herschel.

A new Ledge in the Mediterranean.—In the Grecian Archipelago the fisherman have asserted, for thirty or forty years past, that the bottom was not so far from the surface of the sea as formerly. And on examination at different times, within that period, it has been found that an extensive ledge has risen many fathoms. In 1835 the depth of water was only two fathoms, when formerly it was fifteen. The ledge extends 800 metres from east to west, and 500 from north to south. It will probably rise to the surface of the sea in 1840. The cause of this phenomenon is probably volcanic.

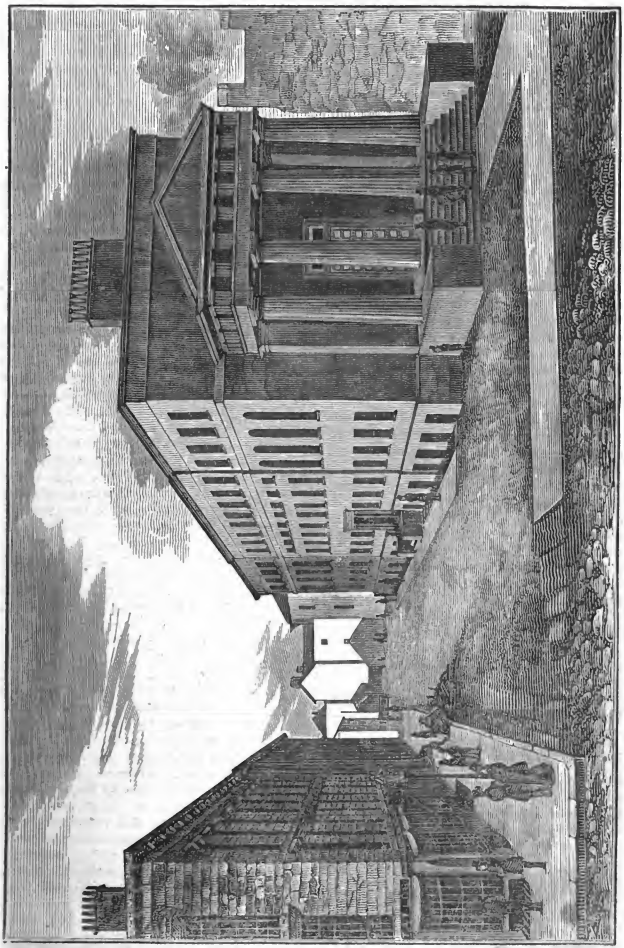
Beet-root sugar.—A method has been lately discovered in France, of extracting a perfectly pure and chrystalized sugar, in twelve hours, from the pulp of beet-root; and in the proportion of *ten pounds of sugar to one hundred of beet-root.*

QUADRILLE.

ARRANGED FOR THE AMERICAN MAGAZINE, BY CH: ZEUNER.



DECEMBER.



[View of the New Court House, Court Street, Boston.]

NEW COURT HOUSE IN BOSTON.

We present a view of the New Court House in Boston; or as good a view as can be given of this spacious building; for it is so surrounded with other buildings near it, that it is impossible to give a view which will do full justice to the original. When some stranger inquired of one of the pleasant young men at the Tremont, where the New Court House was situated? he replied, 'It is behind the barber's shop.' Such a building, and for such purposes as a court house, many think should have more space about it; and regret that it was not placed in a more eligible situation. It is a spacious edifice, and if beauty consisted in magnitude, as the ancient Egyptians seem to have supposed, this is a very handsome building. It is a parallelogram of one hundred and seventy-six feet by fifty-four feet. The height is fifty-seven feet to the cornice, consisting of a basement and three stories. The first story above the basement being twelve feet, the second twenty, and the third eighteen feet.

The material of which it is composed is Quincy granite, and at each front or end is a superb portico, with four solid, fluted pillars, of the length of twenty-seven feet, and four and a half feet in diameter. The north end, or front of the building, is parallel with Court street; but standing back a few yards, which makes a proper opening to the street. The porticoes are symetrical, and the style is far superior to the main part of the building. The flight of steps at the porticoes are very spacious. The front of the building is in a narrow court, which is not more than forty feet wide. Here also is a convenient flight of stone steps. The first story above the basement is appropriated to the Police and Justice's court, and to offices for the clerks of that and of the Common Pleas and Supreme court. These rooms are 20 by 16 feet. And there are also rooms for the accommodation of jurors, and for the Law Library, belonging to the gentlemen of the bar. The courts holden in this building, besides that already mentioned, are the Common Pleas, Municipal, Supreme Judicial, United States' District, and United States' Circuit courts. The rooms for these courts are large and convenient; two of them are fifty feet by forty.

The court house built thirty years ago, and standing only a few rods south of the new one, has two large rooms, and other smaller ones for clerk's offices and the Probate court; but was not sufficiently spacious for the public convenience. That was planned by a gentleman of taste, and in the opinion of many surpasses the new one in architectural beauty. The form and the order of architecture are very different from the one lately erected. This is spacious and may be more convenient; but it does not display in all parts equal taste.

It is some time since the new court house was begun; and the cost must be very great. The lowest estimate is $200,000. The large columns, or pillars, of which there are eight, four at each end, or front, were brought by oxen, slung under low wheels, or in sleds, when there was snow on the ground. A team of sixty-five yoke of oxen and twelve horses was employed to draw a single block of which they were made, and the weight of which was fifty-three tons. The porticoes are said to be an exact copy, both in size and form, of the Doric portico at Athens, described in Stuart's 'Antiquities of Athens.' The ascent to each portico is by eight steps, to the level of the lower story. The basement contains rooms for the city watch, and strong cells for locking up prisoners.

FROM BREWSTER'S 'NATURAL MAGIC.'

Among the instruments of natural magic, which were in use at the revival of science, there was one invented by Kircher, for exhibiting the mysterious hand-writing on the wall of an apartment, from which the magician and his apparatus were excluded. The annexed figure represents this apparatus. The apartment in which the spectators are placed is between LL and GH, and there is an open window in the side next LL, GH being the inside of the wall opposite the window. Upon the face of the plane speculum EF are written the words to be introduced; and when a lens LL is placed at such a distance from the speculum, and of such a focal length, that the letters and the place of their representation are in its conjugate foci, a distinct image of the writing will be exhibited on the wall at GH. The letters on the speculum are of course inverted, as seen at EF; and when they are illuminated by the sun's rays, S, as shown in the figure, a distinct image, as Schottus assures us, may be formed at the distance of 500 feet. In this experiment the speculum is by no means necessary. If the letters are cut out of an opaque card, and illuminated by the light of the sky in the day, or by a lamp during night, their delineation on the wall would be equally distinct. In the day-time it would be necessary to place the letters at the end of a tube, or oblong box, and the lens at the other end.

Native Silk Manufacture. Two skeins of sewing silk were exhibited by Mr. Calvin Messenger, the product of worms fed on the mulberry, planted by him only two years ago. The silk was manufactured by his wife on a common spinning wheel, and wound from the cocoons by the aid of a common reel. Mrs. M. had no other information but that derived from books and conversation. One skein was wound from 100 cocoons, and one from 200. The former was even sized, but not large enough for common use; the other, in size, texture and beauty, is equal to any we have ever seen.—*New Hampshire Argus.*

Confucius said there were three things to be guarded against through life. When young, we must guard against or control our appetites; when middle-aged, our passions, and when old, particularly covetousness.

DIFFERENT RACES OF MANKIND.

Physiologists generally speak of five races or early families of man. Not meaning that they are of entirely distinct origin; but as having, in very remote periods, separated from each other, and, owing to their different manners, education and climate, varying widely from one another in many respects; especially as to color, height, features, and the conformation of their body. This is the theory of those who fully admit the truth of sacred history, and trace all nations up to Noah and his family, who survived the deluge. Others, with more reason, perhaps, make but *three* great divisions among the inhabitants, and trace these respectively to the three sons of Noah, Japhet, Shem and Ham. Not that they suppose there was any material difference between the three brothers; but that the descendants of each, within two and three successive generations, separated widely from each other, and settled different and distant regions: and on account of climate, mode of living, occupation and pursuits, which were quite varied, in the lapse of ages, perhaps in ten generations, became easily distinguishable from one another. Thus the descendants of Japhet moved northward and westward, and occupied the northern or temperate regions, and became the inhabitants of Asia Minor, of Caucasus and vicinity, and of Europe; the descendants of Shem filled up Asia; and the posterity of Ham settled in Egypt, Ethiopia, and thence extended through Africa, except that the more northern parts of that quarter of the earth, on and near the Mediterranean, were probably early colonized by people from Phœnicia, Asia Minor, and the Grecian Isles, who were descendants of Shem, or more probably of Japhet. The posterity of Japhet, who pushed west and north and northwest, about the Caspian and Black Seas, and far north and west of them into the vast territory now Hungary, Turkey in Europe, Germany in its greatest present or former extent, Russia, Greece, Italy, Spain, France, Holland, and all the northern nations, including Great Britain and Iceland. The inhabitants of Europe are the descendants of Japhet; and the more northern nations are a robust and hardy race, eager for adventure, fearless of danger, and ready for labor.

Saxony is included in this great territory of northern Europe, whose inhabitants were an enterprising people early in the Christian era. They navigated the Baltic, and visited the Belgian and British coasts, where they often committed piratical depredations. In the fifth century, they laid the foundation of the Saxon kingdom in Britain. And the Saxon blood is the most precious in all Europe. This now flows in the veins of the English who settled the greatest part of the United States of America. It is connected with the most heroic and enterprizing, the most resolute and inventive race of man. The descendants of Shem have been powerful and ingenious; but they are little disposed for daring adventure. And the posterity of Ham, great and learned in remote ages, in Egypt and Ethiopia, have long been so degraded as hardly to be ranked among civilized nations; and the greatest portion are sunk in ignorance and barbarism. 'The borders of Japhet are *enlarged*' on this new continent; and his descendants here are probably destined to surpass all other people in knowledge, science and social improvements.

THE READING OF YOUNG LADIES.

Every one must rejoice that the education of females is considered more important than formerly, and that expense is more willingly incurred for their intellectual improvement. Female children are now generally as well educated as boys; and many parents provide generously for their instruction. But this is chiefly true of the rich; and it is also the fact, that their education is designed as much to polish as to inform. Those in the middling classes of society are also better educated than in the last generation; but their education is more superficial, as they cannot devote so much time as the more opulent. To such we would suggest the importance of improving their time, after the common season of study has passed. What they have learnt at school, or at the academy, is but a foundation. They will be very deficient, if they do not read and study after their school time is over; and much depends on the kind of reading which they shall choose.

This class of young persons are necessarily or usually occupied, a portion of time, in domestic concerns. And yet they can find a few hours almost every day, for reading. If disposed, they may fill up much time in this profitable pursuit. It is rather the taste than the opportunity that prevents most young persons from this occupation. But a still greater fault with many is, the reading of works which impart no important knowledge, nor tend to moral improvement; but serve only to gratify the imagination. Too much time is spent on novels, few of which are calculated to instruct or to improve. The writings of Scott and some others may be an exception. But generally, they are trash and chaff. More useful and solid works should engage the attention of the female mind. And of this description of books there is no want. Many have been written within a few years, by learned and religious persons, expressly designed for the improvement of females. Some histories cannot fail to be useful. The study of botany, chemistry, astronomy and biography will be sure to enlarge and elevate the mind. Essays on moral and religious subjects, and on the personal, social and relative duties, will also leave good impressions, and furnish motives for uniform propriety of conduct.

JUPITER. The most magnificent planet in our system is Jupiter, and the largest of them all, being in diameter no less than 87,000 miles, and in bulk exceeding that of the Earth nearly 1300 times. It is, moreover, dignified by the attendance of four *moons, satellites*, or *secondary planets*, as they are called, which constantly accompany and revolve about it, as the moon does round the earth, and in the same direction, forming with their principal, or *primary*, a beautiful miniature system, entirely analogous to that greater one of which their central body is itself a member; obeying the same laws, and exemplifying, in the most striking and instructive manner, the prevalence of the gravitating power as the ruling principle of their motions.

REV. FRANCIS BROWN. D. D.
President of Dartmouth College.

President Brown was a native of New Hampshire, and was born at Chester in the county of Rockingham, in the year 1784. His father was a respectable character, and gave his son a good moral education in his youth. His mother died when he was but nine years old; and yet it is believed that she exerted a very favorable influence on his young mind, during her life. In the early years of children very much depends on the care and advice of a mother, especially in a moral and religious view. There was nothing remarkable in the early life of Dr. Brown, except that he was always amiable and morally correct in his deportment; and yet not more so than many 'who are trained up in the way in which they ought to go.' When fourteen years old, he expressed to his father a strong desire to have a liberal education; but his father thought he could not well afford the expense. This was a source of great anxiety to him; as he seemed to have no desire for worldly wealth. His father married a second wife, at this time; and the good lady acted a better part than some step-mothers do. She favored the views of her son-in-law, on perceiving his great desire for learning, and furnished the necessary funds out of her own separate fortune. Mr. Brown was one among many in our republican country, belonging to families, neither rich nor learned, who have pushed themselves forward in life, by obtaining a college education, through the influence of friends, or by great personal efforts on their own part. He was very sensible of the kindness of his mother, in this respect; and said to her in his last sickness, 'my dear mother, whatever good I have done in the world, and whatever honor I have received, I owe it all to you.'

Mr. Brown was prepared for college at the academy in Atkinson in his native state, which he first attended when in his sixteenth year. His instructer bore testimony to his diligence and to his correct moral deportment. 'It is rare,' he said, 'that we find an individual in whom so many excellencies meet.' He was early distinguished for a strong mind, as well as a sweet disposition. And he then discovered that accuracy and curiosity, which examines into the causes and nature of things, as well as great depth of penetration. When his teacher sent him to the college, he wrote to the President, that he sent him an Addison. While in the academy at Atkinson, he was visited with severe sickness; and he stated to some friend afterwards, that on recovering from that sickness he had deep impressions of the importance of religion, and experienced much of its joys. He then felt still more desirous of obtaining a college education that he might become a preacher of the gospel. 'It is not known to any what confidence he placed in these exercises of his mind; but no one could less esteem a religious hope begun and matured in the marvellous and exciting. His views of the gospel forbade any sympathy with experiences and professions, built on anything but a knowledge of God, and cordial admission of the great doctrines of his word. In him, reason presided over and kept in subjection all the inferior powers; cool, investigating, cautious, the rigid discipline he maintained over his spirit allowed little indulgence for excitement of feeling, little play for the fervor of the imagination.' He did not make a public profession of religion, till he had become a tutor in Dartmouth college in which he was educated, though he had long been supposed governed by Christian principles.

Mr. Brown became a student in Dartmouth at the age of eighteen; and his whole behavior, for the term of four years, while under-graduate, was marked by diligence to his studies, and moral excellence seldom surpassed, and not often equalled. His natural temper was amiable; and his deportment was conspicuous for modesty, humility and condescension; and yet he was not wanting in firmness, when circumstances called for its exercise. Favorable anticipations were even then indulged by his friends of his future eminence.

On leaving the college, as a pupil, Mr. Brown resided one year in the family of Judge Elijah Paine of Vermont, as a private instructer of his children: and at the close of this period, he returned to the college, and undertook the office of tutor, to which he was then elected. In this office, he continued for three years, and was justly esteemed as an able and faithful teacher. And such were his mild manners and conciliating temper, that he was a very popular instructer, at the same time that he was firm in his conduct as a governor of the college. This period was also industriously employed by him, in storing his own mind with useful learning. After the death of President Brown, some papers were found in his study, containing resolutions adopted by him, when he entered on the duties of a tutor, which show a wish to be useful, a determination to be diligent and studious, and a desire for improvement in personal piety and in all the Christian graces and virtues.

Mr. Brown began preaching in public, in 1809, when he was little more than twenty-five years old: and was ordained as pastor of the first church in North-Yarmouth, Maine, January, 1810. In this situation he remained for five years; greatly beloved and esteemed, as an able and devoted minister of

the gospel, and his services were highly blessed to the religious welfare and improvement of his society. He was a faithful, experimental and popular preacher, and within a few months numerous additions were made to his church. While living at North-Yarmouth, Mr. Brown was chosen one of the trustees of Bowdoin college at Brunswick; and his care, good judgment and advice were of great service to that young but rising institution.

In 1815, Mr. Brown was elected president of Dartmouth college, when he was only thirty-one years of age. The choice of one so young in years, was proof that he was mature in learning, intelligence, discretion and piety. He was chosen, too, at a time of great party strife in New Hampshire, among those who took an interest in the college. There had been a difficulty of some years standing, between the former president and the trustees and friends of that seminary; and, without intending at all to speak of the merits of the case, it may be stated as a fact, that the feelings of many good men had become unhappily exasperated towards each other. When Mr. Brown was elected to the office of president, many were dissatisfied, chiefly on account of his youth, though both his literary and religious character was respected.

The trials of the new president were very great. The legislature of the state passed a law, essentially changing the charter of the college; and even forbade the president, or any other of the teachers or officers in the institution exercising any power or control therein whatever, and imposed a fine on such as dared teach in the seminary. The situation of the officers must have been very trying; especially that of the President.

This unhappy state of things, continued for five years; but the president conducted with so much firmness and judgment, as well as moderation, that the studies were still pursued, and the pupils increased. He had also to prepare funds for the support of the college, as the treasurer withheld what was in his hands, by the direction of the Legislature. This added to his cares, and occupied much of his time. And it is probable the labors and anxieties, which attended the peculiar condition of the college were the cause of his premature death. He took long journies and attended the judicial courts, where the cause of the college was pending; and his constitution was undermined by such extraordinary services. In 1819, he travelled south for the benefit of his health; and this perhaps prolonged his life a few months, but did not effect a cure. He returned to the college early in the summer of 1820, and died in July at the age of thirty-six. His death was that of a sincere Christian and a firm believer in immortality. Few men in New England have been more eminent, at so early an age; or have held so important stations with the same ability and reputation.

TRAVELS IN EGYPT.—BY A LADY.

Cairo, Feb. 26, 1836.—We had a very delightful sail from Alexandria to this city, a distance of 140 miles; the river is generally a third of a mile in width, and although the constant changing of its channel makes its course very crooked, the general direction of it is to the south as you ascend.

The banks are higher than the country back of them, hence the facility with which the whole surface of the ground can be covered with water during the annual flood; openings are made through the banks in many places for the purpose. A constant succession of villages occurred on the banks of the river; they are situated in palm groves, which have a picturesque appearance. Wheat fields and cotton plantations extend to the very edge of the bank. Owing to a strong head wind we were obliged to land four miles below the city at Shoubra, where Mohammed Ali has built a fine palace, and planted a garden after the European fashion. Mounted on donkeys, with our servants and loaded camels following, we pursued our way in real caravan style, through an avenue of the finest trees I have seen since leaving Europe.

It is impossible to convey to any one, who has never seen a city in Turkey or Egypt, a correct idea of the manner in which they are built. Cairo is even more peculiar than any I have yet seen. The streets, destitute of any kind of pavement, appear like a series of narrow, dusty lanes, between walls; the projection of the houses, one story above another, oftentimes prevents one from seeing an inch of the sky; they have no windows in the basement stories, and those above, fronting the streets, are hidden behind a frame lattice, or verandah work, affording the fair inmates an opportunity of peeping out. The roofs are all flat, and generally either covered with bricks and mortar, or plastered. The object of making the streets so narrow, and projecting the upper stories of the houses over them, is to exclude the rays of the sun, which produces a much cooler temperature in hot weather.

You may be assured we were not here long, ere we visited the Pyramids, distant about ten miles. We were accompanied by Mr. Gliddon, the American Consul, and some other gentlemen; our whole company consisted of about twenty persons. We carried our own provisions and camp equipage.

These stupendous and renowned monuments of antiquity, are situated in the desert, a half a mile from the cultivated soil; these are called the Pyramids of Djizeh, of which there are three, the largest of which is ascribed to *Cheops;* it is a square of seven hundred and forty six feet, and its perpendicular height is four hundred and sixty-one feet; being twenty-four feet higher than St. Peter's at Rome, which, as you have seen that, will be a criterion in your mind's eye. The whole consists of two hundred and six tiers of stones of different dimensions, (varying from four to one foot in height,) the square of each tier being smaller than the one below, so as to leave the space of two or three feet all around, forming what are called the steps.

On arriving near the spot, we were beset by crowds of Bedouin Arabs, who live in villages near by, and serve as guides; they are wretched looking people, but they are truly necessary evils, particularly to those who wish to ascend. I very bravely commenced making the attempt, but suc-

ceeded in going only about two-thirds of the way, which was more owing to the fears my husband entertained for my safety, than to my own timidity, although I must acknowledge it appeared to me a very hazardous undertaking; but so great was my desire to stand on 'the summit of this most ancient and mighty monument of man's power and pride,' that I think I should have succeeded but for the entreaties of Mr.—— for me to descend. I was, however, at a sufficient height to observe the scene around me, which cannot be more justly or more impressively described, than in the words of a celebrated traveller: 'On one side, a fearful melancholy desert, either level, or broken into wild and fantastic hills of sand and rocks; on the other, scenes of the utmost fertility and beauty marked the course of the Nile, winding as far as the eye can reach into Upper Egypt; beneath appeared the numerous hamlets and groves; and far in the distance was seen Cairo with its lofty minarets.' We entered the interior by the usual passage, which is upon the sixteenth step on the side facing the north, nearly in the centre, and examined most of the chambers which have been discovered: in one is still the stone case which contained the sarcophagus, and in which it is supposed Cheops was buried. It is of red granite.

Some author says: 'To assist the mind to form a just idea, let us take the sarcophagus chamber, whose dimensions are those of a good sized drawing-room, being about thirty-five and a half feet long, seventeen and a quarter broad, and eighteen and three quarters high; which, as the solid contents of the pyramid are found to exceed 85,000,000 cubic feet, so that after leaving the contents of every second chamber solid, by way of separation, there might be three thousand seven hundred chambers, each equal in size to the sarcophagus chamber.'

The second pyramid, called *Cephrenes*, stands to the south-west, at a distance of about one hundred and twenty yards; it is not as large as the first, and the third of this group is very much smaller still. The place of our lodging the first night was in one of the ancient tombs, which has long since been despoiled of its treasure. Our servants occupied another, and our donkeys even did not disdain to take their supper and repose in others of these gloomy and solitary receptacles of the dead. The whole of the ground around the pyramids has once been an immense cemetery; many of the tombs had been broken up by searchers after mummies and other relics of antiquity. For miles in extent the ground is whitened with human bones and remnants of cloth which has been torn from the embalmed bodies.

The next morning we again visited the pyramids to impress on our minds a correct idea of their vastness, and from thence we directed our steps to the great *Sphynx*, which, from its position with regard to the largest pyramid, appears to have appertained to it in some way. The breast, shoulders, and neck are those of a human being; the back, that of a lion; the breast is thirty feet in width, and the entire length about one hundred and thirty; its height, sixty-three feet. After spending some time in viewing this colossal antiquity, we mounted our donkeys and proceeded to the pyramids of *Sakkara*, which are much smaller than those of *Djizeh*. Here we did not take up our abode in the tombs, but had tents pitched, which was quite novel to me, being the first time that I ever encamped. *Sakkara* is more remarkable for its curious wrought tombs, than for the pyramids. The former are generally excavated out of the solid rock. One, supposed to have been that of Psammeticus, has a lining, upon which are many hieroglyphics, in excellent preservation; some in *intaglio*, others in *relievo*. It consists of several apartments.

This evening Mr. —— and Mr. R. have gone to see the 'Lion in his lair,' the great Mohammed Ali, who has during his reign excited no small degree of interest. Although he rescued Egypt from a state of anarchy, never, I think, could the poorer class of population (the fellahs) have been in a more wretched condition than at present: they appear to be bowed down by the iron hand of oppression.

All commerce is entirely in the hands of the Pasha; he is truly the lord and disposer of the fruits of the soil. The owner is not master of his produce, not being allowed to use or dispose of any portion of it, till the agents of government have taken what part they may think proper at their own price. I must acknowledge my opinion of this sovereign has been very materially changed since my coming into his dominions, and I am inclined to think that all the good he ever may have done, will die with him, and that only the evil will survive. He is now advanced, and the sceptre will soon be swayed by another, and who that other will be, appears here to be a question.

Tomorrow we take our departure, for our voyage up the Nile, to visit the remains of this once mighty kingdom; those monuments of antiquity, which have been, and will for ages continue to be, the wonder of nations.

THE BLIND GIRL TO HER MOTHER.

Mother, they say the stars are bright,
And the broad heavens are blue;
I dream of them by day and night,
And think them all like you.

I cannot touch the distant skies,
The stars ne'er speak to me—
Yet their sweet images arise,
And blend with thoughts of thee.

I know not why, but oft I dream
Of the fair lands of bliss;
And when I hear thy voice, I deem
That heaven is like to this.

When my sad heart to thine is pressed,
My follies all forgiven,
Sweet pleasure warms my beating breast,
And this, I say, is Heaven.

O mother, will the God above
Forgive my faults like thee?
Will he bestow such care and love
On a blind thing like me?

Dear mother, leave me not alone!
Go with me when I die;
Lead thy blind daughter to the throne,
And stay in yonder sky.

IRON WORKS IN MASSACHUSETTS.

The use of iron, which is so great a benefit to civilized man, was not known to the native Indians of North America. It is the most valuable of metals, and was known, according to Moses, at a very early period; but the manufacture of steel seems to have been long unknown. Iron has been always used in proportion to the advance in civilization. It was early found in New England by our ancestors, the first English settlers, who soon gave attention to the discovery and manufacture of this useful article. One of the earliest writers of the settlements, climate, soil and resources of Massachusetts has stated that there was an iron manufactory at Lynn, in 1631, only three years from the first settlement of Salem, and one year after the arrival of Winthrop and company in Charles river, in 1630. A few years later (1645) the working in iron, even from the rare material, or crude and natural state, as an ore, a company was formed for carrying on the business in that place; but not with so great success and profit as had been anticipated. It appears to have been several years later, that the business was well prosecuted or profitable.

An establishment of the kind was begun at Braintree in 1648; and this, probably, because the manufacture at Lynn was not sufficient for the public demand, for want of funds to the amount desired.

Mr. Jenks was an ingenious and skilful man, and soon received a patent for making scythes, for a period of fourteen years. The dies used at a mint in Boston in 1652, for the silver coins then issued by the colonial government, were cast by Mr. Jenks. And in 1654, he constructed a fire engine for Boston, which was, probably, the first made in any of the colonies.

The Lynn company asked the aid of government at different times; but none other than the privileges before noticed, were probably granted. In 1650 it was so extensive as to manufacture seven tons of iron in a week.

Still the debts of the company accumulated, and several suits were brought against it, which were a great embarrassment and injury. Speaking of the company, as it then was, a quaint and punning writer of the time said, 'that instead of drawing out bars of iron for the use of the country, there was hammered out only contention and lawsuits.'

Some years later, (1690) a ledge in the northern part of Nahant was supposed to contain iron; and the people of Braintree, who were engaged in the iron works, gave three shillings a ton for the rock; and the record says, at this price, they were permitted to take any quantity they desired. Since that period, an immense quantity of rock has been carried *from* a part of the territory, formerly the town of Braintree, to adorn the metropolis of the State, and other parts of the country.

There appears to have early been an expectation of finding the more precious metals in the rocks and iron mines of Lynn, which served to sharpen the zeal of the undertaking in expending so much money on the plan; but none was ever found. It was not the first, or the only plan, however, undertaken in the hope of finding the philosopher's stone, or gold itself in such abundance as to afford competence and ease for the residue of life. It is best, perhaps, that expectations should not often be realized; for health, and ease, and happiness, the most precious blessings of man, are rarely enjoyed except at the fair exchange of industry, economy and sobriety.

The first forge built in any part of America, it is believed, was in Raynham, in the county of Bristol, in the year 1652, by James Leonard and brother, soon after they came into the country, and within two years from the first settlement of that town. They were skilled in the forge manufactory of iron, which was before unknown in New England, though other modes of working this article had been occasionally used. We have the authority of the late Rev. and learned Dr. Fobes of Raynham, for stating that from 1710 to 1795, a period of eighty years, there had been almost an inexhaustible fund of good ore in that place, from which the forge was supplied. Large quantities of ore, he also stated, were carried to other works, and it appeared still in abundance. Beds of iron ore it is said are usually found in and near pine and cedar swamps; and such is the soil and growth near the ponds in Raynham, Middleborough, Halifax, Carver, and Kingston, where iron ore most abounds.

Henry Leonard, one of the brothers, moved to New Jersey and pursued the same line of business with success. From James Leonard, all those of the name in the old Plymouth Colony and in Massachusetts have descended, and they have been both numerous and respectable.

The first furnace in Plymouth county for smelting iron ore was in 1702, at Pembroke, near a large pond. Mr. Hatherly, one of the first settlers in Scituate, more than fifty years before that period, had proposed to erect an iron mill or furnace, in a place now we believe within the town of Hanover. In later times, several blast furnaces where in operation in Plymouth county for various kinds of casting iron.

Hugh Orr, of East Bridgewater, was an ingenious operator in iron. He was a native of Scotland, and came to this country about 1735. Soon after his arrival he settled in Bridgewater, and devoted himself to the manufacture of various edged-tools.

The family of Leonard has long been ranked among the most respectable in Plymouth and Bristol counties. For three and four generations they were noted as well for their piety as their industry and ingenuity, and many of them were in high and important office in the commonwealth. Are we not authorized to believe, that in the order of God's moral government, industry and sobriety, especially when united with the elevated spirit of piety, entail respectability to many generations? The influence of ancestral worth and the natural desire of imitating beloved parents, cannot fail to produce a salutary effect on the character of ingenuous and honorable youth.

Among the first settlers at Plymouth and from 1620 to 1627, there were two carpenters, two shipbuilders, two smiths, and a felt maker. And how could they have lived in any degree of comfort without such mechanics? Our fathers' ancestors

saw the necessity of uniting theory and practice; and it is this union, to which we are indebted for our prosperity and stability, as a community, to the present time. While a proper number are devoted to the sacred office, and to the duty of providing for the public weal, in making and administering the laws, which require reading and study, the great body of the people in New England have been of one or other of the laboring classes. And yet, with the education provided in all parts of the country, the working portion are not mere laborers with the hand. They unite theory with practice, in most instances, and are thus qualified to advance the arts of life, and to aid in the inventions and improvements, which the present age seems destined to make.

Iron works were erected at Lynn, as early as 1645; the first probably in New England. Joseph Jenks was early the agent, or principal workman, in the business. The government of the colony extended its fostering care to the establishment, soon after it was begun. In that, and on the following year a furnace was built; and the citizens generally were invited to take shares in the undertaking, at £100 a share. A company, it appears, was then incorporated with privileges similar to incorporated companies in later times. It was also then proposed to erect a forge, but how soon after that part of the plan was accomplished, does not appear. Among the first undertakers, were John Winthrop, Jr. and Major Sedgwick. The company had a right secured to them exclusively for the manufacture of iron, and iron utensils, for twenty years; provided, that within three years they manufactured enough for the wants of the people, and sold at twenty pounds a ton, and admitted such as applied and were ready to pay the amount required. So that it appears any one might belong to the company who wished it; indeed there was a difficulty in raising funds sufficient to carry on the business to advantage. The company were authorized to find and occupy six other places for the same kind of business, of three miles square each, if not owned by other individuals. But, if not, then the court reserved the right to establish other companies for working in iron. The stock was to be free from taxes for twenty years, and the workmen excused from military training, but to be furnished with arms.

NATURAL THEOLOGY.

I shall, probably, not be contradicted when I say, that, in a *moral* view, if one train of thinking be more desirable than another, it is that which regards the phenomena of nature with a constant reference to a supreme, intelligent Author. To have made this the ruling, the habitual sentiment of our minds, is to have laid the foundation of everything which is religious. The world thenceforth becomes a temple, and life itself one continued act of adoration. The change is no less than this, that, whereas formerly God was seldom in our thoughts, we can now scarcely look upon anything without perceiving its relation to him. Every organized natural body, in the provisions which it contains for its sustentation and propagation, testifies a care, on the part of the Creator, expressly directed to these purposes. We are on all sides surrounded by such bodies; examined in their parts, wonderfully curious; compared with one another, no less wonderfully diversified. So that the mind, as well as the eye, may either expatiate in variety and multitude, or fix itself down to the investigation of particular divisions of the science. And in either case it will rise up from its occupation, possessed by the subject, in a very different manner, and with a very different degree of influence, from what a mere assent to any verbal proposition which can be formed concerning the existence of the Deity, at least that merely complying assent with which those about us are satisfied, and with which we are too apt to satisfy ourselves, will or can produce upon the thoughts. More especially may this difference be perceived, in the degree of admiration and of awe, with which the Divinity is regarded, when represented to the understanding by its own remarks, its own reflections, and its own reasonings, compared with what is excited by any language that can be used by others. The works of nature want only to be contemplated. When contemplated, they have everything in them which can astonish by their greatness; for, of the vast scale of operation, through which our discoveries carry us, at one end we see an intelligent Power arranging planetary systems, fixing, for instance, the trajectory of *Saturn*, or constructing a ring of two hundred thousand miles in diameter, to surround his body, and be suspended like a magnificent arch over the heads of his inhabitants; and, at the other, bending a hooked tooth, concerting and providing an appropriate mechanism, for the clasping and reclasping of the filaments of the feather of a humming-bird. We have proof, not only of both these works proceeding from an intelligent agent, but of their proceeding from the same agent: for, in the first place, we can trace an identity of plan, a connexion of system, from Saturn to our own globe; and when arrived upon our globe, we can, in the second place, pursue the connexion through all the organized, especially the animated bodies, which it supports. We can observe marks of a common relation, as well to one another, as to the elements of which their habitation is composed. Therefore one mind hath planned, or at least hath prescribed, a general plan for all these productions. One Being has been concerned in all.

Under this stupendous Being we live. Our happiness, our existence, is in his hands. All we expect, must come from him. Nor ought we to feel our situation insecure. In every nature, and in every portion of nature, which we can descry, we find attention bestowed upon even the minutest parts. The hinges in the wings of an *earwig*, and the joints of its antennæ, are as highly wrought, as if the Creator had nothing else to finish. We see no signs of diminution of care by multiplicity of objects, or of distraction of thought by variety. We have no reason to fear, therefore, our being forgotten, or overlooked, or neglected.

The existence and character of the Deity, is, in every view, the most interesting of all human speculations. In none, however, is it more so than as

it facilitates the belief of the fundamental articles of *Revelation*. It is a step to have it proved, that there must be something in the world more than what we see. It is a further step to know, that, amongst the invisible things of nature, there must be an intelligent mind, concerned in its production, order, and support. These points being assured to us by Natural Theology, we may well leave to Revelation the disclosure of many particulars, which our researches cannot reach, respecting either the nature of this Being as the original cause of all things, or his character and designs as a moral governor; and not only so, but the more full confirmation of other particulars, of which, though they do not lie altogether beyond our reasonings and our probabilities, the certainty is by no means equal to the importance. The true Theist will be the first to listen to *any* credible communication of divine knowledge. Nothing which he has learned from Natural Theology, will diminish his desire of further instruction, or his disposition to receive it with humility and thankfulness. He wishes for light; he rejoices in light. His inward veneration of this great Being, will incline him to attend with the utmost seriousness, not only to all that can be discovered concerning him by researches into nature, but to all that is taught by a revelation which gives reasonable proof of having proceeded from him.

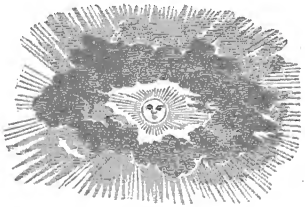
But, above every other article of revealed religion, does the anterior belief of a Deity bear with the strongest force upon that grand point, which gives indeed interest and importance to all the rest,—the resurrection of the human dead. The thing might appear hopeless, did we not see a power at work adequate to the effect, a power under the guidance of an intelligent will, and a power penetrating the inmost recesses of all substance. I am far from justifying the opinion of those, who 'thought it a thing incredible, that God should raise the dead;' but I admit, that it is first necessary to be persuaded, that there *is* a God, to do so. This being thoroughly settled in our minds, there seems to be nothing in this process (concealed as we confess it to be,) which need to shock our belief. They who have taken up the opinion, that the acts of the human mind depend upon *organization*, that the mind itself indeed consists in organization, are supposed to find a greater difficulty than others do, in admitting a transition by death to a new state of sentient existence, because the old organization is apparently dissolved.

They who refer the operations of mind to a substance totally and essentially different from matter, (as most certainly these operations, though affected by material causes, hold very little affinity to any properties of matter with which we are acquainted,) adopt perhaps a juster reasoning and a better philosophy; and by these the considerations above suggested are not wanted, at least in the same degree.

Marl.—Professor Hitchcock has lately discovered extensive beds of *diluvial marl* in Springfield, South Hadley, and West Springfield. Some are more than a mile in length. An extensive bank of this substance is on the north side of the Agawam stream, which falls into the Connecticut in West Springfield. He thinks it extends as far as Hartford, and underlies most of the plain. It is on the east as well as the west side of the Connecticut.

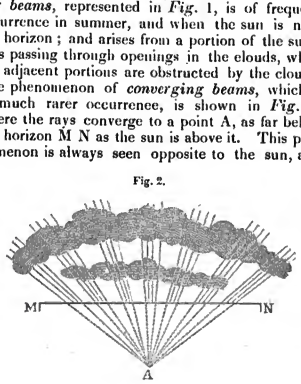
ON HALOS AND PARHELIA.

Fig. 1.



Among the luminous phenomena of the atmosphere, we may notice that of converging and diverging solar beams. The phenomenon of *diverging beams*, represented in *Fig.* 1, is of frequent occurrence in summer, and when the sun is near the horizon; and arises from a portion of the sun's rays passing through openings in the clouds, while the adjacent portions are obstructed by the clouds. The phenomenon of *converging beams*, which is of much rarer occurrence, is shown in *Fig.* 2, where the rays converge to a point A, as far below the horizon M N as the sun is above it. This phenomenon is always seen opposite to the sun, and

Fig. 2.



generally at the same time with the phenomenon of diverging beams, as if another sun, diametrically opposite to the real one, were below the horizon at A, and throwing out his divergent beams. In a phenomenon of this kind which I saw in 1824, the eastern portion of the horizon where it appeared was occupied with a black cloud, which seems to be necessary as a ground, for rendering visible such feeble radiations. A few minutes after the phenomenon was first seen, the converging lines were black, or very dark; an effect which seems to have arisen from the luminous beams having become broad and of unequal intensity, so that the eye took up, as it were, the dark spaces between the beams more readily than the luminous beams themselves.

This phenomenon is entirely one of perspective. Let us suppose beams inclined to one another like

the meridians of a globe to diverge from the sun, as these meridians diverge from the north pole of the globe, and let us suppose that planes pass through all these meridians, and through the line joining the observer and the sun, or their common intersection. An eye, therefore, placed in that line, or in the common intersection of all the fifteen planes, will see the fifteen beams converging to a point opposite the sun, just as an eye in the axis of a globe would see all the fifteen meridians of the globe converge to its south pole. If we suppose the axis of a globe or of an armillary sphere to be directed to the centres of the diverging and converging beams, and a plane to pass through the globe parallel to the horizon, it would cut off the meridians so as to exhibit the precise appearances in *Fig.* 1, and *Fig.* 2; with this difference only, that there would be fifteen beams in the diverging system in the place of the number shown in *Fig.* 2.

BOSTON, SALEM AND IPSWICH, IN 1686.

[*Continued from No. 2. p. 70.*]

'When we came to Ipswich, I would have treated our Indian with a bottle of wine, but he very thankfully refused it, and so we parted.

'We took up our quarters at Mr. Steward's house (uncle to Mrs. Comfort.) His joy to see his niece at Ipswich, was sufficiently expressed by the kind welcome we met with; our supper was a fat pig and a bowl of punch, yet I had so great a desire to go to bed, as made it to me a troublesome piece of kindness.

'I rose early the next morning, and having taken a view of Ipswich, I found it a good haven town; their meeting-house (or church) is built very beautifully, there is store of gardens about it, and good land for tillage.

'Mrs. Steward is of a middle size, her face round and pretty, her speech and behavior gentle and courteous. She is all obedience; the hyacinth follows not the sun more willingly than she her husband's pleasure; her household is her charge; her only pride is to be neat and cleanly, she is both wise and religious; and, in a word, whatsoever men may talk of magic, there is none charms like her. This is the true picture of Mrs. Steward, and if I should attempt her husband's character, the least I can say of him is, he is so kind a husband he is worthy of the wife he enjoys, and would even make a bad wife good by his example.

'Ipswich is a country town not very large, and when a stranger arrives there, it is quickly known to every one; it is no wonder then, that the next day after our arrival, the news of it was carried to Mr. Hubbard, the minister of the town, who, hearing I had brought to Boston a great venture of learning, did me the honor to make me a visit, and afterwards kindly invited me (and my fellow traveller) to his own house, where he was pleased to give us a very handsome entertainment. It is no easy matter to give a true character of Mr. Hubbard. The benefit of nature, and the fatigue of study, have equally contributed to his eminence, neither are we less obliged to both than himself, for he freely communicates of his learning to all who have the happiness to share in his converse. In a word, he is learned without ostentation and vanity, and gives all his productions such a delicate turn and grace (as is seen in his printed sermons and History of the Indian Wars) that the features and lineaments of the child make a clear discovery and distinction of the father; yet is he a man of singular modesty, of strict morals, and has done as much for the conversion of the Indians as most men in New England.

'Having answered Mr. Hubbard some questions about the books I had brought over, and shown him a catalogue of them, I took my leave and returned back with Mrs. Comfort to her uncle Steward's.

'I had now no more business in New England, but just to pay a farewell to Mr. Burroughs, (that was so kind to me at my first landing) and to shake hands with Mr. Wilkins, (my landlord) his wife and daughter.

'And here I shall first take my leave of Mr. Francis Burroughs, for I wanted, till now, an opportunity to thank him for the many civilities he heaped upon me in Boston; for he not only lent me money, (the true touchstone of friendship) but made me his bed-fellow, got me the freedom of Boston, and was the chief person I advised with under any difficulty.

'"His person is handsome, (I don't know whether he knows it or no) and his mind has many charms; he is a man of remarkable chastity, of a great deal of wit, and his repartees are so quaint, apposite and genteel, it is a pleasure to observe how handsomely he acquits himself, in the mean time he is neither scurrilous nor profane, but a scrupulous, honest, conscientious man, so that he is what we may call a religious merchant, and (I was going to say) he hates vice almost as much by nature as grace." And this, I think, is his true character; but I must remember Captain Leg is ready to sail, and I have other farewells to make, and so worthy friend, adieu.

'I come next to honest Wilkins, my landlord, for I should think myself very unkind, should I leave Boston without shaking hands with a person I lived with near eight months. His person is tall, his aspect sweet and smiling, and (though but fifty years old) his hair as white as snow He was formerly a bookseller in Limerick, and fled hither on the account of conscience. He is a person of good sense, keeps up the practice of religion in his family, and (upon a nice search into all his affairs) I found it had a general influence on all the actions of his life; he was deservedly chosen a member of Mr. Willard's church, and I do think he is a pious man, if there is such a thing in Boston. But, dear sir, adieu, for the wind is fair, and I must be gone; but I leave your company with as much regret as ever I did any earthly blessing.

'My next farewell shall be to Mrs. Wilkins, my obliging landlady.

'"She is a tender wife, a kind mother, and is a woman well poised in all humors; or, in other words, Mrs. Wilkins is a person of an even temper, which rendered her conversation more agreeable than those that laugh more, but smile less; some there are, who spend more spirits in straining for an hour's mirth, than they can recover in a month,

which renders them so unequal company; whilst she is always equal and the same. 'Tis virtue to know her, wisdom to converse with her, and joy to behold her; or (to do her justice in fewer words) she is the counterpart of her pious husband, who, without her, is but half himself." I might enlarge, but I fear if I write on I shall lose my passage, and so (kind landlady) adieu.

'Having taken leave of the father and mother, my last visit must be to the daughter, and sheer gratitude obliges to this farewell; for you, Mrs. Comfort, may well take it amiss, if I should forget your favors to me in your father's house, your pleasant company to Ipswich, your assistance when I was ill, and the noble looking-glass you sent my dear, and all this with a world of innocence.

'When the ship was ready to sail, I was attended on board by Dr. Bullevant, Mr. Wilkins, Mr. York, Mr. Gouge, Mr. Heath, Mr. Tryon, Mr. Green, and some other of my Boston friends. The captain entertained them with wine, beer, cider, and neats' tongues.

'So soon as ever my friends were gone off to shore, our captain ordered all his guns to fire, which were accompanied with huzzas and shouts, and shaking of hats, till we had lost all sight of our friends.

> 'Kind Boston, adieu, part we must, though 'tis pity;
> But I'm made for mankind, and all the world is my city:
> Look how on the shore they hoop and they hollow,
> Not for joy I am gone, but for grief they can't follow.'

DATE OF EARLY NEW ENGLAND CHURCHES.

There are several statements extant, as to the order or dates of the early churches in New England, but they do not precisely agree. The discrepancies are not very important, and yet the antiquary wishes for entire accuracy, if it can be obtained. The following statement has been prepared with some care, and it is believed may be considered nearly correct.

The first Christian church in New England, in the order of time, though it was not originally formed here, was that of Plymouth. It was a complete church of itself, and may with truth be so considered, from the first settlement in 1620. There has not been any other *formation* of a church there to this day.

The second church is that formed in Salem in 1629. There was then a regular formation of a church; and those who composed it had not previously belonged to one and the same church in England.

The third church was formed in Charlestown, July 30th, 1630, and was composed of persons who had been members of different churches in their native country, before their emigration to Massachusetts. But, as the greater part of the brethren soon settled on Boston side of the river, that was the place of meetings for religious worship and instruction as early as November following, for the inhabitants on both sides of the river. Thus the church in Boston was the third; and when, in 1632, the inhabitants had much increased, a new church was formed of brethren on the Charlestown side. When it is said the third church was in Boston, or the Boston church, it is to be taken with some qualification. Watertown church, under Rev. Mr. Phillips, with Sir Richard Saltonstall at the head of the settlement, was regularly formed within a few days after the church was gathered in Charlestown, under Rev. Mr. Wilson, composed of Governor Winthrop, Governor Dudley, Mr. Johnson, Mr. Nowell, and others. It has been common to consider the church of Watertown as of a later date; but the acceptance and signing of a church covenant is an act entirely sufficient to constitute a regular church. It is also to be observed, that the people who settled at Dorchester, were (a part of them, at least,) formed into a church before they left England, which was in March, soon after their arrival (which was the last of May, and a few weeks before Winthrop and company arrived) sat down in Dorchester; and, having two ministers in the company, they immediately had religious worship and ordinances. So that there is some reason for considering Dorchester as the third church, and next after that of Salem. And Watertown, also, may be dated as early as that formed at Charlestown, which afterward removed to Boston. Certainly, next after Boston and Dorchester, and before Roxbury and Lynn, as it has commonly been placed. Then Roxbury in 1632; the new church in Charlestown, and that in Lynn, the same year; and Cambridge (then called the Newtown) in 1633, after the arrival of Mr. Hooker and Mr. Stone, who first settled in that place, but afterwards removed to Hartford. The Roxbury church, if placed next after Watertown, is the fifth in Massachusetts, and the sixth in New England; Charlestown next in order of time, and Lynn next; and Cambridge, or the Newtown, next after Lynn. Roxbury, Charles town and Lynn, were nearly of the same date The next church gathered was at Ipswich in 1634; and, in order of time, followed Newbury, Concord, Hingham, Dedham. Then two in Connecticut, one at Windsor, and one in Hartford; and in 1637, one in Weathersfield. In 1635 a church was formed at Scituate, and in 1636 one in Duxbury. Prince, however, quotes Governor Bradford, that Duxbury church was the second in Plymouth colony. Perhaps this may be reconciled by the fact, that the brethren on Duxbury side of the bay requested a dismission in 1633; but they were not, formally, till the fall of 1636. The second in Cambridge, after the removal of Mr. Hooker's church, was also in 1636, under Mr. Shepard. The second in Dorchester, after the removal of Mr. Warham with his church, in 1636. Weymouth in 1637; Rowley in 1638; Exeter in 1638; and about this time, or 1639, several other churches were formed in Connecticut, as Guilford, Stratford, Stamford, Milford, Fairfield and New Haven. In 1639, Sudbury, Braintree, Taunton, Yarmouth, Barnstable, Hampton; Gloucester, Salisbury, Sandwich and Marshfield, (or Green's Harbor,) 1640; Dover, in New Hampshire, South Hampton, on Long Island, 1641; Woburn and Reading, 1642; Hull, Rehoboth, Haverhill and Wenham in 1644; Medford, 1640; Medfield, 1641; Springfield, 1643; Andover and Malden, 1646; second in Scituate, 1645; a church on the Vineyard, 1642–3; New London, 1646–7; Manchester, 1645; Eastham,

1646; Marblehead, 1648; Medfield, 1651; Northampton, 1654; Bridgewater, 1656; Topsfield, 1650; Beverly and Amesbury, 1668; Chelmsford and Billerica in 1655–6; Groton, 1665; Lancaster, 1653; Marlborough, 1660; Hadley, 1661; Bridgewater, 1656; Middleborough, 1660; Mendon, 1667; Hatfield, 1670; Westfield, 1669; Wrentham, 1672; Milton, 1662, and Worcester, 1684.

NOTE.—There are, probably, some errors in this statement; still it is believed there are few, and it may excite attention to the subject. The date of towns and of churches are not the same in all cases. Often a church was gathered before the town was incorporated.

ARGUMENTS FOR THE TRUTH OF THE CHRISTIAN RELIGION.

It is well, occasionally, to consider the evidences in favor of our holy religion; especially some of the most plain and obvious ones. Those whose faith is formed, may find an advantage in such review; and the young, who are inquiring for light to guide them in making up their opinions, may perceive what are, at least, some of the evidences of our common faith.

There is the external and the internal evidence. This is the usual distinction, and it is not arbitrary, but natural. The external evidence is derived from history, miracles and prophecies; and the internal, from the peculiar doctrines of the gospel; which are adapted to our spiritual nature and hopes, and commend themselves to our reason, and yet some of them such as mere human reason was not able to discover and prove; and the singular character of the author of Christianity, which was perfectly unique, combining every moral excellence, and being unspeakably superior to that of any other human being.

The latter kind of evidence is highly satisfactory, and often has convinced men who rejected the former. They have been conscious, on reflection and examination, that Christianity was of divine original; revealed by him who is the Father of our spirits, and the source of wisdom, intelligence, truth and goodness. Yet, as this is matter of feeling, or of reasoning, we may err in our conclusions. For though, in most cases, consciousness is the highest kind of evidence, the feelings may deceive us, and reasoning may deceive us on this point. And there is great danger of substituting feeling for argument, and imagination for evidence. If our faith is to depend on feelings, we shall be liable to change often and to err grossly. Whenever evidence and argument are neglected, and we yield to our feelings, we have no sure guide to direct us. And a belief, possessed without argument and external evidence, may desert us when there are the strongest proofs at hand to be offered. Thomas believed because he saw. He witnessed the miracle, and he saw Jesus alive after his death; and, therefore, he was convinced. But his feelings, and hopes, and consciousness of the purity and excellence of Christ's doctrines, were all strong and powerful before. He had no new truth or doctrine revealed to him by Jesus after his resurrection. It was the miracle of his resurrection that convinced him Jesus was the Messiah, the Son of God. 'Blessed, indeed, are they who have not seen, and yet believe.' But they have not believed from feeling merely, nor chiefly; but because they were convinced from history and the testimony of the apostles, that Jesus was raised from the dead as he had predicted; and this proved that he came from God, and was assisted by the divine spirit to perform miracles and to rise from the dead.

Miracles, prophecies and history, all go to show that Jesus of Nazareth; the same may be also said of Moses, the prophets and the apostles, that they were divinely inspired and assisted. For no one could do the miracles which they did, except God were with them. This is unsophisticated reason and common sense; this is sound philosophy. When any one speaks as a prophet, or in the name of God, we ask for proof that his claims are well founded. And that proof is not in sound and pure doctrines, (as we may deem them to be) but in a work strictly superhuman, without any deceit by magic or sorcery. To raise the dead, to still the tempest, to cure an inveterate disease, and open the blind eyes by a word; this is proof that God is with him. No one can resist such evidence. For to suppose real miracles to be wrought by evil demons, is most irrational, is dishonorable to God, is contrary to his word and his course of providence; is a denial of his supremacy, or an admission that he can contradict himself. That there are pretended miracles, no one will deny. But that any real miracle was ever performed except by a prophet or messenger of God, is alike unscriptural and unreasonable: for it is confounding truth and falsehood. To exhort and admonish may require no miraculous power; but to reveal a new system, to require faith in new doctrines, it is not enough to exhibit them as rational, or consonant to our feelings; we want proof of the divine authority by which they are declared; we must know whether God or man only has spoken. There have been wise and pious men, who said many excellent, moral things, but they must give evidence by their supernatural power that God sent them, before they can expect the world to receive the doctrine as divine. It cannot be necessary to insist on this. He who made, and upholds, and governs the world, and has imposed the laws by which it is continued, preserved and directed, he only can direct, suspend, or change those laws entirely, or in part only; and no one can effect it but by his permission, authority and aid. Nicodemus perceived and acknowledged this; the common people, (except from false notions and traditions) admitted this; the Jewish rulers acknowledged it generally, and did not deny it, except for the sake of disbelieving and rejecting the claims of Jesus and his apostles. 'Let this man come down from the cross, and we will believe,' they said, without reference to his doctrines. And to reverse the case, and say the doctrine is true, (or in other words, *I like the doctrine*) therefore I believe the miracle, would not only be unphilosophical, but would be making the reality of a miracle depend on a man's opinions, wishes or prejudices. He must first like, or approve the doctrine, and then he can admit the miracle. This is destroying the foundation of physical truth and the distinctions of reason. Ar-

gument and fact are made to yield to opinion; and how did Peter undertake to convince the unbelieving Jews after the resurrection of Christ? By argument and reasoning, as to the truth and sublimity of the doctrines of our Lord? No: but by referring directly and solely to his miracles and his resurrection, the greatest and the crowning work of all, and proof that Jesus was the messenger from heaven. 'A man approved of God among you, (how proved or approved? By his doctrines merely or chiefly? No; but) by miracles, and wonders, and signs, which God did by him in the midst of you.'

Can there be a question, that, if Jesus of Nazareth had only delivered the sermon on the mount, and such other doctrines, consoling, sublime and acceptable as they are, and merely declared we should exist hereafter, and that there would be a resurrection and judgment to come, however probable or reasonable all this might appear, and had performed no supernatural works, nor risen from the dead; can there be a question that *few*, comparatively, would have believed in him or his religion? It would have been, and it might reasonably have been said, all this is fine, and excellent, and glorious, and we should be glad if it is true. We should like to see it proved. We desire to know if this man speaks by divine authority, and if God has sent him thus to teach, and thus to reveal hidden truths. There have been wise and reflecting men in the world, who said many things reasonable and probable, so far as we can judge, of God, and of our spiritual nature, and of futurity. But there is no certainty whether it be truth, or fiction, or mere probability. And the proof necessary to decide in such a case, is miracles; the exercise of a power above that of man.

But is it not difficult to judge what is a real miracle and what is a pretended one? No doubt it is. And the ignorant and the credulous may be deceived by jugglers and magicians. And, therefore, it is important to ascertain whether a real miracle be performed or not.

It was by miracles, and not by reasoning, nor by sublime doctrines, that Moses was to convince the king of Egypt. And though he was deceived by pretended and counterfeit miracles, the mighty power displayed by Moses, did at last convince the surrounding nations that God was the leader and protector of Israel. The centurion, when he saw the miracles at the death of Christ, was convinced that he was the messenger of God; but the doctrines of the gospel had no concern in producing in him this belief. And so it was with the three thousand on the day of Pentecost, and with a great number of other Jews within a short time after that event; they were convinced by the miraculous power of the apostles; and then, and not till then, they inquired what doctrines they were to believe to become the true disciples of Christ. Paul was converted by a miracle; and then he wisely took pains to learn what was the will and commands of Jesus of Nazareth, who had miraculously appeared to him. After this event, he spent some time to study the Old Testament, and the prophecies respecting the character of the Messiah. But immediately on recovering from the shock of the miracle, he confessed Jesus as a divine messenger, or the Messiah, and he was baptized. It was the miracle which convinced him; and he was not disobedient to the heavenly vision, and sought to know the doctrines and commands of the divine teacher. He first believed him to be divine from the miracle which he had witnessed; and then he studied to know the mind and will of God.

So, also, with regard to the resurrection of Christ. And who, indeed, ever thought of searching for evidence of the resurrection of Christ from the purity, and sublimity, and excellence of his doctrines? The evidence from these, is not that Christ arose from the dead. They furnish no argument for his resurrection. All that could be said was, or is, this man is a very pure, and benevolent, and devout character, and we hope he declares the truth when he speaks of the pardoning mercy of God, and of a future life; and we can hardly suppose so good a person would deceive us. Still we ask for the evidence of his authority to preach as he does. We ask for no particular sign, no peculiar miracle, such as to please ourselves. But we want proof that he speaks by divine authority and commission. Nor did the disciples believe in his resurrection, after all his spiritual and glorious doctrines. Nor were they convinced till he actually arose, and they saw him, and handled him, and knew by their senses, (not by admiration or force of his doctrines) that he was risen from the tomb. Thomas said he would see and feel; and all the apostles hesitated, doubted and disbelieved, till he presented himself before them, and said, handle me, and see that I am not a spirit. And we rejoice that they did hesitate and doubt till they had received full and plenary proof from their senses, that Christ was raised from the dead. What if they had said, we ask not for any such proof, we believe he has arisen because he said he should rise again, and because he declared to us glorious and consoling doctrines, of which our feelings approve, and for which our natures are fitted. This coincidence, or agreement, is truly a great satisfaction, and is an additional argument that the religion of the gospel is from God. But alone, and of itself, and without the proof of miracles, does not carry conviction to the mind. For the extent of man's knowledge and wisdom is not known; and we are unable to say, this man is so wise and rational that I am certain he speaks by the spirit of God. But when a miracle is wrought, no one can deny that God has interposed.

Prophecies, speaking languages, as the apostles did, and declaring the thoughts of others; all these are miracles; and the same remarks apply as suggested above. But prophecies are not usually fulfilled till some time after they are uttered; and are not therefore always a proof to those who are living when they are delivered; yet their accomplishment is a proof that they who delivered them were inspired by God, and thus bear testimony to their claims as divine messengers.

Much more might be said, if necessary, as to the proof from miracles in favor of those who perform them; and hence require belief in their doctrines

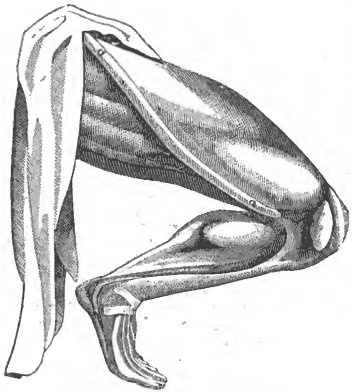
Our Saviour himself continually appealed to his miraculous works, when urging the Jews to receive his religion. If ye believe not my sayings, nor perceive the truth of my doctrines—(because of your worldly views) this is the purport of his language—believe me for the works' sake; for he who sent me, he doeth the works; if I do not the works of God, do not believe me. And to deny Christ, after the exhibition of divine power, in his miracles, which was the same as disbelieving in the miracles, was sin against the Holy Spirit; and it was such an obstinate and wilful opposition to truth and evidence, that there was no pardon for it. It was, in a word, the highest act of opposition to God, to reject the miracles. But many, who were not ready to receive all his spiritual doctrines, but who admitted his divine authority, and became obedient, were pardoned and blest. When they witnessed his raising of the dead, and curing the blind and the diseased, and his stilling the tempest, by a word, they were convinced that he was sent from God. When he sent out his apostles, after his resurrection, he said, go preach the gospel, and I will be with you, to confirm the doctrines by miracles.

It was the first and chief object of the apostles to show the resurrection of our Lord from the dead; to this they directed all their testimony; one was chosen in the room of Judas to bear witness to the resurrection; and we are told, that with great power they gave testimony to this all-important fact. Peter frequently insisted on this, that God had raised up Jesus from the dead; and therefore he was to be received as Lord and Christ; and one whose words and doctrines were worthy of all acceptation and obedience. They never *rested* the argument in favor of the gospel on the purity and sublimity of the doctrines. Even Paul, who said the gospel was superior to all human philosophy, and was the power of God and the wisdom of God, insisted, when he would convince the unbelieving, that God had raised him from the dead. This he did at Athens, and before Felix, Festus and Agrippa. 'And if Christ be not risen from the dead,' he says, 'our faith is vain and our doctrine vain. And there is no evidence, and no reason to suppose, that any ever received the Christian doctrines, who rejected the miracles of Christ, and the fact of his resurrection. Indeed, it was this which proved or showed him to be the Son of God. Then it was proper to urge and explain the doctrines of the gospel; and such was the course pursued by the apostles.

There is other external evidence, as common or profane history, and the most prevalent traditions in the world. These afford evidence of the truth of the Mosaic history; of the state of the Jewish nation, and of the spread of the gospel. The evidence thus given is indeed collateral or incidental; but to a reflecting mind it is of great force. The history of ancient Chaldea, Assyria, Egypt, Persia, Phenicia, Greece, Rome, &c. furnishes evidence confirmatory of the great facts asserted in the Bible. The internal evidence, that is, the pure and sublime doctrines, the holy precepts, and the perfect character of Christ, is not to be disregarded. It serves to impress, to affect, and to satisfy the mind. The deep things of revelation, the spiritual truths it contains, and the promises of the gospel, all go to convince us, that such a system has God for its author. It is a revelation from the source of truth and goodness, for the purification, exaltation and salvation of the soul. But still we must first have proof that the author of Christianity was sent and assisted by God; especially must this be the case with unbelievers, to engage them to examine, to receive and obey it. Miracles are necessary to command our belief; the pure and holy doctrines to aid our progress in a spiritual life. B.

'All that's bright must fade.' So said an aged friend, when the lovely Ann was united to the gay, the opulent and accomplished Standish, and accompanied him, from her father's humble but reputable abode in a country village, to his splendid mansion in the city. Surprised and incredulous, I looked on the venerable matron, to know if I heard correctly what was said, and to express distrust of the gloomy prophecy. Yes, repeated my aged companion, 'All that's bright must fade.' In a few short years, these bright visions of joy will vanish, and these fair promises of happiness will fail of fulfilment. 'Riches will take wings and fly away;' sorrow and affliction and disappointment come alike to all; 'for man is born to trouble as the sparks fly upwards.' And the withering influence of blighted hopes and alienated affections may wound the heart, and nothing earthly can sustain it. Such evils, the common lot of humanity, cannot be warded off nor cured by wealth, nor gaiety, nor the splendor of fashionable life. And if riches fail, even these poor means of enjoyment are lost.

A volcano in the Atlantic occurred in June last, near St. Michaels, and within about two miles of that island. The smoke was first seen to arise on the 14th of June, and was supposed to be an engagement between two or more vessels. Shocks of earthquakes were felt on the island, a short time before the smoke and explosion took place in the sea. The appearance of smoke continued several days. Stone, cinders and ashes were thrown up. The crater, or mouth of the volcano, was to be seen. The sea is about forty fathoms deep at the place. The land rose about thirty feet, and a furlong in length. On the 19th, the spot was approached within five miles, and the new island appeared fifty feet high above the sea, and two thirds of a mile in extent. Afterwards the spot was approached to within three miles, and the vessel was covered with smoke, and some sand also fell on the deck. On the 20th of June, the height of the new island was 150 feet, and about a mile long, and the volcano raged with great violence. On the 4th of July, a landing was effected on the newly risen land; but it was a mere bed of ashes, and so hot in most parts, as to be intolerable for walking. It is so steep in most places as to be inaccessible; and the height of one part is 200 feet. A new island was thrown up in the Mediterranean last year in a similar manner; but it sunk again in a short time. It must be left to time to decide the duration of this near St. Michaels.



SARTORIUS; OR TAILOR'S MUSCLE.

Muscles, with their tendons, are the means or instruments of performing animal motion; and they are disposed and operate truly mechanically. There is, therefore, always a relation between the joint and the muscles which move it. Whatever motion the joint, by its mechanical formation, is capable of performing, the muscles are capable of affecting, by their peculiar and curious position. If there is, as at the knee and elbow, a hinge-joint, capable of motion *only* in the same plane, the muscular tendons are placed parallel to the bone; so that, by contraction or relaxation of the muscles, to which they belong, they produce that motion, and no other; but the shoulder and the hip, where the ball and socket-joint allows of a rotatory motion, tendons are so placed as to produce the motion which the joint admits of.

The *sartorius*, or tailor's muscle, rises from the spine, and runs diagonally across the thigh, and is connected with the inside of the main bone of the leg, below the knee; and by its contraction enables us to throw one leg over the other; at once giving effect to the ball and socket-joint at the hip, and the hinge-joint at the knee. For the rotatory motion of the head and hands, there is a specific mechanism; in the oblique direction of the muscles connected with them there is also a specific provision for putting this mechanism of the bones in action. In these cases the oblique muscles would be inefficient without the articulation, and the articulation be lost without oblique muscles. The oblique muscles attached to the head are so disposed as to be capable of steadying it, as well as of moving it. It is often necessary to fillet the head of the infant; and when death occurs, the head drops and rolls in any direction. It is by a muscular force constantly in action, and that equipollent, that the head maintains its erect position. The muscles here supply, what otherwise would be a great defect in the articulation; for the joint in the neck, though admirably adapted to the motion of the head, is not sufficient for its support. The specific adjustment of a muscular power enables a person to hold up the head, while it is by a curious structure of the bones in the neck that he turns it. Both these, the oblique muscles, and the peculiar mechanism producing the rotatory motion, are alike admirable in their construction, and in their operation; and show 'that we are curiously and wonderfully formed.' They exhibit proofs of intelligent design, and of beneficent purpose, which cannot fail to excite astonishment and gratitude.

PARTINGS.

[From an English Magazine.]

Partings—Oh! who hath not felt their power?
Who hath not mourn'd o'er the parting hour?
Quickly we cherish affection's ties
For minds of congenial sympathies:
But our lots may in varied scenes be cast,
Our brief communion too soon is past;
And we sigh while the rushing tear-drops start;
'Alas! we have only met to part!'

Partings there are of more bitter ruth,
When we breathe farewell to the friends of youth;
They are link'd with thoughts of happiest hours,
Of birds and sunshine, of trees and flowers;
They were sharers in all the joy and mirth
Of the social board, and festive hearth.
Oh, little the world can glad the heart
Condemned from an early friend to part.

Yet are there partings more sad, more drear,
When the awful summons of death is near;
When we stand the couch of a sufferer by,
And gaze on the dim and languid eye;
Watch the last hues on the fading cheek,
Hear the last accents, subdued and weak;
Then yield our loved one to death's cold dart,
And feel that with more than life we part.

Partings! O is not their trial given
To lift the spirit from earth to heaven?
We might deem this world a place of rest,
Surrounded by all we love the best;
But when we the loss of friends deplore,
May our thoughts be turned to that blest shore,
Where heart shall spring to its kindred heart,
And meet in glory, no more to part.

SONNET.

[From an English Magazine.]

Vexed with vain thoughts, I anxious haste,
To the green woods and ever freshening sea;
That 'mid their myriad echoes I may taste
Thoughts of a kindred sanctity.
Yet 'tis not there whence comes the breath
That bids the spirit to be free;
'Tis not from earth, so fraught with death,
We learn our nobler destiny.
Then look we to the stars, that scattered round
Like beacons pointing to some happy shore
Of spirit land, amid the far profound
Of heaven! O, I could dream for evermore
Of that blest land, and deem the sounds I hear
Of once loved voices, 'mid the ecstatic swell
Of angel choirs, calling to those who dwell
On this dark world to fix their yearnings *there!*

The *Silk-loom* has been lately much improved at Manchester, in England, and steam power is successfully applied. The loom occupies only about half the space required by the one now in common use; and a young girl may weave as much in a day as can be now woven by two men.

[A View of Petersburg.]

PETERSBURG.

This city founded, and in a great measure built by Peter the Great, near the beginning of the last century, may now be justly considered the capital of the Russian empire. Moscow, the ancient metropolis, though a large city, with 250,000 inhabitants, has been eclipsed by Petersburg. The latter contains nearly double the population of the former. Petersburg is built on the banks of the Neva, and extends on both sides of that river. It is situated on low and level ground, and is much exposed to inundations. When a strong west wind blows for some time, it drives in the waters of the gulf of Finland, and the Neva rises six or eight feet and overflows the city. In 1824 Petersburg and vicinity was covered as with a sea; immense property was destroyed, and eight thousand people were lost. When the river is no higher than usual, the city appears to be amidst the waters, like Venice, and some of the cities of Holland. The city of Petersburg is built in a very regular manner, and is one of the most splendid in the world. All the large cities in Europe are old, and parts of them in a state of decay; but in Petersburg everything is comparatively new; and yet the curiosity is more gratified in visiting a city of two or three thousand years standing. Peter, and the late Emperor Alexander were great men, and zealous to add to the prosperity of Russia; but most of the czars have been destitute of public spirit, and sought only the glory of the crown; some of them have even opposed all plans for the melioration of the people. The late policy and conduct of the Russian empire has been extremely unjust and cruel towards the Poles; and Nicholas is in favor of ruling his own subjects by fear or force, instead of governing them by mild and equal laws.

Petersburg is in latitude 59, and it covers a larger space than any city of Europe, except Moscow and London. It is 1400 miles north of Paris, and 500 west of Moscow, the ancient capital. The public buildings are numerous and truly magnificent; particularly the palaces, churches, and those for the Academy of Sciences, and for the Fine Arts; and to the former is attached a large library and an observatory. The city is divided into nine quarters, or districts; and the organization of the police is wholly military. Its commerce is already extensive, and has been increasing for the last forty years. The climate is severe; they have sleighing five months in a year.

BICHE DE MER; OR SEA-SLUG.

Among the objects of luxury, eagerly sought after by the Chinese, and imported into China from all the principal maritime countries of the Indies, are fish-maws, sharks' fins, edible birds'-nests, and tripang, or sea-slug. A number of American vessels are constantly engaged in these several fisheries, and the business has proved a very profitable one. Although less extensive in amount than the seal, cod, and whale fisheries, it resembles those important branches of industry, in being almost a clear gain, a source of created wealth, as it were, drawn from that great common of nations, the seemingly infertile ocean. Some interesting particulars relating to this subject may be found in Morell's Voyages; we intend here merely to give some general facts, as to the fish, its haunts, the manner of its preparation, and its market value.

It is known in commerce under the names of tripang, sea-slug, or biche de mer, a French term, of the same import as sea-slug. It belongs to the genus holothuria of naturalists, and is found chiefly on the numerous coral reefs that stud the Eastern seas. The slug is an unseemly looking substance, of a dirty brown color, hard, rigid, and scarcely possessing any power of locomotion, or appearance of animation. A span in length, and two or three inches in girth, is its ordinary size, but it is sometimes as much as two feet in length, and from seven to eight inches in circumference. In shallow water the animal is taken out by the hand, but in deeper water it is sometimes speared. When taken it is gutted, dried in the sun, and smoked over a wood fire; this being the only preparation it receives. The fishery is carried on from the western shores of New Guinea and the southern shores of Australia to Ceylon, inclusive. Indeed within the last few years it has been successfully prosecuted on the shores of the Mauritius. The whole produce goes to China. In the market of Macassar, the great staple of this fishery, not less than thirty varieties are distinguished, varying in price, from below ten dollars a *picul* (133 pounds) to above one hundred, and distinguished by well known names. The quality and value do not depend upon the size, but upon certain properties, neither obvious to, nor indeed discernible by, those who have been long and extensively engaged. About 7000 piculs or 8,333 cwt. are annually sent from Macassar to Canton; and there is also a considerable amount exported from Manilla to the same place.

VIRGINIA SPRINGS.

We extract the following general remarks upon the quality and geological character of the celebrated Sulphur Springs of Western Virginia, from the valuable Geological Report of Professor Rogers, recently published in Philadelphia. After having treated of the warm or thermal waters of the same region, he proceeds thus.

'Among the general considerations in relation to them, which may with propriety be introduced in this place, it is worthy of remark, that while the thermal springs, to which we have referred in treating of the Warm Spring Valley and other places, appear to be indebted for their impregnation chiefly to rocks of a calcareous description, and are accordingly found in or near such rocks. The sulphurated springs now referred to, among which are the White, Red, Salt, Blue, and Gray Sulphur Springs, appear to derive most of their ingredients from pyritous slates, and will, therefore, be observed to rise through or in the neighborhood of strata of this nature. Of these the White Sulphur is the only one which can be regarded as decidedly thermal, its temperature being about 64°, while the others do not vary considerably from the usual temperature of the ordinary springs around them.

'Another point of a general character which may be noticed here, is the radical difference as to saline and gaseous ingredients observable between the springs formerly alluded to (i. e. the thermal springs,) and those of which we now speak. All the waters of the Warm and Hot, and Sweet Spring Valley, and several others of analogous character, and highly thermal temperature, discharge considerable quantities of free gas, consisting of carbonic acid and nitrogen, of which the latter was first distinctly recognised by myself, and found in general to be present in very great proportion. At the same time a large amount of carbonic acid is held in combination in these waters, imparting the acidulous character for which some of them are remarked, and giving them the power, as already mentioned, of holding large quantities of carbonate of lime dissolved. This acid impregnation is in no instance more strikingly manifested than in the waters of the Sweet Spring Valley, of which, that of the Red Spring about a mile below the principal fountain of the Sweet Springs, presents an amount of the combined gas equal in volume to about one half of that of the water itself. Another important distinctive feature in the constitution of the class of springs here spoken of, is the large amount of the carbonates, principally that of lime, and the comparatively small proportion of the sulphates with which they are impregnated.

'On the other hand, the class of sulphurated waters, as exemplified in the springs previously named, contain but little carbonic acid, and a comparatively minute amount of carbonate of lime, or other carbonates, while they are richly fraught with sulphurated hydrogen gas and various sulphates, of which those of lime and magnesia are present in most considerable proportion. Besides the several points of distinction above referred to, it may be further added, that the sulphurated waters are in general impregnated with various organic matters of very peculiar characters, which by collecting in the reservoirs and channels of the springs, in mixture with precipitated sulphur, have, by the various beautiful colors which they impart, given rise to the different appellations by which the more celebrated of these fountains are now known. But while such general resemblances as have been described, will be found to prevail among the several springs of each class as thus characterised, it is at the same time to be remarked, that they possess striking individual peculiarities, imparting to each an amount and species of medicinal agency in some degree appropriate to itself.

'Viewed singly in relation to the number, variety, and high reputation of its mineral waters, this region is well entitled to be proud of the vast resources of which it is possessed. Grouped as these springs are at moderate distances apart, presenting within the same district a variety of medicinal character, for which in other countries, regions remote from each other require to be visited in succession, placed at a point equally accessible to the inhabitants of the seaboard and the great valley of the west, and situated in a region of grateful summer temperature, of salubrious climate, and of picturesque and diversified natural beauties, they are now rapidly attaining a celebrity for powerful and varied remedial qualities, as well as for the refined social enjoyments which are annually gathered around them, destined ere long to eclipse the older reputation of the famed fountains of the northern States, and to vie even with the long established character of the most noted of the watering places of the Old World.'

ACACIA ARABICA.

Balsam, myrrh and frankincense, senna, aloes, and gum are found in Arabia in great quantities, and are staples of that country. The balsam of Mount Gilead is said to be introduced from Arabia. Frankincense was much used by the Jews in their sacrifices. Myrrh* is a gum resin, and exudes from the *amyris kataf*. Gum Arabic is produced from the plant or tree here presented, called Acacia Arabica; and from other species of this genus. The medicinal and valuable properties of *senna* were first made known by Arabian physicians; and the *senna* is the foliage of cassia. If we had the natural history of Solomon, (see 1 Kings, chap. iv. 33) we should probably be more fully informed of the trees and plants of Arabia; for with some parts of the latter country, the Jews at that day had an extensive trade.

* John xii. 3. It was the myrrh which gave an agreeable odour to the ointment; and when pure it was 'costly and precious.' The verse might be rendered 'a pound of ointment, (or nard) mixed with myrrh, pure and costly.' See also Matthew, ii. 11.

REV. WILLIAM AMES, D. D.

This eminent theologian, born in England in 1576, was a zealous puritan, and ranked among the ablest opposers of the English hierarchy and of the ecclesiastical usurpations in his day. He lived at the period when the controversy begun, and was carried on between the high church party, and the reformers, or puritans, as they were usually called. The reformation from popery was very partial or defective in England in the time of Henry the Eighth, and of several of his successors; and a great number of pious and learned men sought for a purer and more scriptural form of worship. But the political characters of that period, and many of the bishops were such also, were satisfied with throwing off the power of the Pope of Rome, while they claimed and exercised almost equal authority themselves in matters of religion. And all who did not conform to the discipline and church government by them ordered, were oppressed, fined, excommunicated, and banished, or imprisoned.

In the latter part of the sixteenth and beginning of the seventeenth, century, the dispute was earnest and bitter. Mr. Ames was distinguished in the noble band of confessors of primitive Christianity, at that eventful period. He was educated at Cambridge, England, and devoted himself to the Christian ministry. But being among the puritans, and not willing to sacrifice conscience for popularity and place, he retired into Holland; and was some time minister at the Hague. Great numbers of the pious clergymen of England fled to the continent, about that period; chiefly to Holland, but some to Switzerland and Geneva. It was in the year 1604, that Mr Ames was thus obliged to leave his native country. Some, who afterwards came to Plymouth and Massachusetts went from England to Holland, a few years later. There were then more than sixteen hundred puritan or nonconformist ministers in England. They were disposed to remain in the bosom of the English established church; and long sought for moderate and conciliatory measures. But they were obliged at last to separate, and to retire; or to violate their consciences by conforming.

The reputation of Mr. Ames was very high as a scholar, a logician and a divine. He had great talents and learning, and his piety also recommended him to all the sincere puritans of the time. He was soon called to fill the chair of theological professor in the university at Franeker, in which he continued for the term of twelve years, (in which time he received the degree of D. D.) when he became the pastor of the English congregation in Rotterdam, as he believed he could be more useful in preaching to his own countrymen, many of whom then resided in Holland, to avoid persecution in England.

Dr. Ames attended the celebrated Synod of Dort, and communicated from time to time, to King James, by his special desire, the proceedings of that ecclesiastical convention. About this time, the Arminians were numerous in Holland; and some have said they were oppressed and persecuted by the civil power, even in that country.

The learned Grotius was ill treated at that period, pretendedly for political reasons, but as some supposed on account of his favoring the Arminians or Remonstrants. Dr. Ames was a rigid Calvinist, and entered often into the lists against the Arminians. His publications on this controversy were able and argumentative; whether they would now satisfy the religious inquirer, we do not undertake to decide. It was also by his writings against the power of the bishops, and the ceremonies of the church of England, that he gained much distinction and applause. But though a zealous and almost uncompromising puritan, he was against entire separation from the English church, if it could be avoided without too great sacrifices for conscience. He was willing to do much for the sake of peace and harmony; but still stoutly opposed some rites and forms then practised, as unscriptural. He correspondeed with Mr. Robinson, the able pastor of the Leyden church; and by argument and a good spirit brought off that worthy minister from his rigid notions of separation, and induced him to be more mild and catholic.

It is not easy to estimate the trials and sufferings of the puritans from 1580 to 1640. They were oppressed and wronged as citizens; their livings taken from them, and their good names most unjustly reproached. And more than this, it was attempted to fetter the mind, and to oblige them to conform to religious forms and rites, which they believed unscriptural as well as unreasonable. As honest and independent men, they could not submit; and as Christians, their consciences would not allow them to do it. They suffered the loss of worldly goods, and of personal ease, but gained a glorious name in the opinion of all virtuous and honorable men.

The last publication of Dr. Ames was entitled 'Fresh Suit against Ceremonies.' It was designed to point out the contrariety of some of the church rites and forms of worship to the primitive practice; and to show the injustice of punishing for nonconformity to them. In 1633, Dr. Ames concluded to remove with his family to New England: and it was about the same time that several eminent ministers immigrated to this country; as Mr. Cotton of Boston, Mr. Hooker and Mr. Stone of Cambridge, and afterwards of Hartford in Connecticut; Mr. Bulkley of Concord, Lathrop of Scituate, and Hobart of Hingham. Dr. Ames was prevented from coming over by his sudden death at Rotterdam, at the age of fifty-seven. His widow and family came to Massachusetts soon after his decease, by the advice and pecuniary assistance of his religious friends. One of his sons was educated in Harvard college, where he was graduated in the year 1645. He soon after went to England and was settled as a clergyman in that country. But Mrs. Ames died at Cambridge a short time before his departure. President Urian Oakes married her daughter.

Phrenology.—It is stated in the Paris Journal, that the Academy of Medicine has been called upon to decide, as to the utility or truth of the phrenological theory. The discussion occupied four days. The opinion given by the academy was, that the system ought not to be adopted at present, and that it must be first established on a more solid basis.

BENJAMIN RUSH, M. D.

Dr. Rush was an eminent physician of Philadelphia for nearly half a century. He was born in 1745, in the vicinity of that city, and died in 1813. He had the privilege of a good education, moral as well as literary. He was five years, from nine to fourteen, in an academy under Rev. Dr. Finley, who was afterward President of Princeton college, New Jersey. From his youth he discovered a reverence for religion, and displayed great simplicity of manners and purity of morals. He entered the college at Princeton when about fourteen years of age; and after he left that seminary, he was engaged in the study of medicine, under Dr. Redman, one of the most eminent physicians of Philadelphia. He spent six years with Dr. Redman, and in attending anatomical lectures given by Dr. Shippen. He then visited England, and spent some time at Edinburgh, where he received the degree of M. D. in 1768. While in Scotland, he was employed by the Trustees of Princeton college to solicit Dr. Witherspoon to accept the Presidency of that seminary; Dr. Finley having deceased in 1766. On his return to America in 1769, Dr. Rush was chosen Professor of Chemistry in the college of Philadelphia; and a few years later, Professor of the Institutes and Practice of Medicine and of Clinical Practice.

Dr. Rush was a teacher of medicine forty-four years; and it has been supposed that the number of pupils who attended his lectures and his instruction, was not less than two thousand two hundred and fifty. He was perfect master of the systems of Bœrhaave and Cullen, but a blind follower of neither. He said, 'medicine was yet in its infancy, and that there was great room for improvement. 'Of how much are we ignorant,' he often exclaimed. He was free and bold in his inquiries, but at the same time cautious and judicious. He examined former theories, and collected whatever was useful and true, but rejected what he found would not stand the test of experiment and science. He was patient and thorough in his investigation, and did not hastily condemn other systems which had prevailed. Dr. Rush was a man of great diligence and method; and was thus able to accomplish so much for the improvement of the important profession of medicine, and for the benefit of his numerous pupils. The peculiarity of Dr. Rush, as a practising physician, was his preference for the depleting system over that of the stimulating or Brunonian. His theory found many advocates; but some learned and successful physicians were entirely opposed to it. The stimulating system has fewer supporters at the present day, we believe, than it had forty or fifty years ago. And yet, in many cases of debility, a generous regimen has produced very favorable results. But this is a subject on which we are unqualified to judge, and will not presume to give an opinion.

In the desolating yellow fever, which proved so fatal in Philadelphia in 1793, Dr. Rush was of peculiar service. He was at all times active; and no situation of personal danger prevented his faithful discharge of professional duties; and his course of practice, adopted some time after the fever had raged, was attended with a good degree of success. In this, as in all other exigencies, he discovered great judgment, and varied his former and usual practice according to the peculiar systems and process of the disease. He proceeded consistently with the depleting theory, though it was by evacuations, rather than blood-letting, and yet this was sometimes practised.

Though the practice of Dr. Rush was very extensive, and one might suppose left him very little time for any other service, he was a great writer. His printed works consist of seven volumes; six of them on medical subjects; and one, of a collection of essays, literary, moral and philosophical. He published a valuable essay on Medical Jurisprudence, and a treatise on Diseases of the Mind.

Dr. Rush was a patriot and a Christian. On all suitable occasions he engaged in political discussion, but never descended to rank himself with a mere party. He was a member of the Continental Congress in July, 1776, when that august body declared these States free and independent. He anticipated from this event, not only political liberty to America, but an occasion for great improvement in knowledge and science, and for the free exercise of the powers of the human mind. And, in this respect, we hope the event will not disappoint his presentiments. He lived long enough after 1776, to believe he saw evidence of a great and glorious intellectual advancement. In 1800 he said, 'from a careful review of the state of this country before the year 1774, and at the present time, I am satisfied the ratio of intellect is as *twenty to one*; and of knowledge, as an *hundred to one* in these States, compared with what they were before the revolution.'

During part of the war of the revolution, Dr. Rush was Physician-General for the Middle Department. He also held the office of Treasurer of the Mint of the United States, by appointment of President Adams in 1799. Dr. Rush was an active and efficient friend of learning, and was a member of

several societies for the promotion of literature and science. He assisted in founding Dickinson college, and has been said, indeed, to be the father of that seminary.

He also advocated a system of town schools, similar to that in the New England States; and contended, that in our country this was necessary for the support of government in purity, as well as for the benefit of every individual citizen. And he thought, with other great and good men, 'that the only foundation for a useful education in a republic is to be laid in religion; that without this there could be no virtue, and without virtue there can be no liberty; and that liberty is the object and life of all republican governments.' Dr. Rush was a firm believer in the Christian system,—'all the doctrines and precepts of Christianity,' he says, in one of his essays, 'are calculated to promote the happiness of society, and the safety and well-being of civil government. A Christian cannot fail of being a republican.' It is a great satisfaction to the intelligent Christian, to find learned men bearing testimony to the truth, and importance, and beneficent tendency of religion. Some few physicians, and anatomists, and even astronomers, have indeed been skeptical in their views; but it was, probably, owing to want of due reflection, or to the abuses and corruptions of religion in the old countries of Europe. Our most eminent physicians and philosophers, for the last fifty years, have been not only advocates for the support of religion in society, but have appeared to be sincere and devout believers in the divine origin of Christianity. In a letter written but a short time before his death, he observed, 'that he had acquired nothing from the world which he so highly prized, as the religious impressions and principles he received from his parents.' He was, indeed, 'a bright pattern of the Christian life;' and many of his publications were directly designed to promote the cause of humanity and good morals.

THE MORAVIANS.

In a former number we gave some biographical notices of Count Zinzendorff, who was some time at the head of the Moravians, or United Brethren, as the sect is frequently called. Before the time of Zinzendorff they had been known also as Bohemian Brethren. He revived the sect, near the beginning of the last century; and it was not till his day that they had the name of United Brethren. They were the puritans of Bohemia and Moravia, a margravate of Austria, but were united, by the influence and zeal of Count Zinzendorff, into one religious fraternity. He formed a colony of them in Upper Lusatia, when they fled from persecution, and which was long considered an asylum for religious people, oppressed and ill-treated for their faith in other countries. Many of the Lutheran and reformed churches joined the United Brethren They object to being considered a sect, as their union is founded on general Christian doctrines. They admit of no peculiar articles of faith, though they agree in a great measure with Calvinists; they take the Scriptures for their rule and guide, but in discipline they are very strict, if not severe. This society early undertook to propagate the gospel among heathen nations. They are said to have been more successful than missionaries from other sects. They are much devoted to this benevolent service even to the present time. Their success is in favor of the opinion, now we believe fast gaining ground, that the greatest hope of bringing over the heathen to the faith of the gospel, is to teach and urge the great leading doctrines, in which almost all agree, instead of insisting on the peculiar tenets of any creed of man's invention, and presenting the Christian system in a scholastic or metaphysical form. They preach the essential truths of the gospel, and represent Jesus Christ as the Son of God, sent to enlighten, to reform and to save the world; without advancing the peculiar creed of Athanasius or Calvin. And yet their faith and preaching approaches near to that usually called orthodox. They have colonies, or societies, more properly, in Holland, England, and different parts of America. Their union, or system of action, is somewhat similar to that of the Methodists. They had large funds in the time of Zinzendorff; afterwards they incurred debts, in their expenses for the support of missionaries; which has proved a great hindrance to their extension and success in later times. They have had missionaries in Iceland, Greenland, and in some parts of the United States. In some of their communities in Germany, England and America, they have boarding-schools, for the education of young persons of both sexes, in which youth are instructed in useful science and polite acquirements; some of them have been in high reputation; at Bethlehem, in Pennsylvania, many young persons of the first families in the country were formerly educated. The strictness of discipline in them has prevented many parents from sending their children. They allow suitable recreation, but prohibit dancing, gaming of any kind, and the promiscuous assemblies of youth of the different sexes.

The community, or society, at Bethlehem, in Pennsylvania, is the largest, next to the parent society at Herrnhut in Germany. There is one also at Nazareth, in the same State, and one at Salem, in North Carolina. There are also smaller congregations at Newport, in Rhode Island, in New York, and in several parts of the interior of Pennsylvania; and in the vicinity of Salem, North Carolina, there are four. In England there are several, as in Yorkshire and Lancashire; and at London, Bath, Bristol, Bedford and Plymouth. They have a number in Iceland, and many in the northern parts of the continent of Europe. They have missions among the heathen; as to the negroes in the Danish West India islands, in Jamaica, Barbadoes, Antigua and Surinam; in Greenland, on the Labrador coasts, among the Esquimaux; at the Cape of Good Hope, among the Caffrees and the Hottentots; and in North America, among the Delaware Indians in Canada, and the Cherokees in Georgia. They never interfere with politics, nor the civil organization of States. They have always supported a good reputation, and been generally considered valuable members of the community; on account of the moral and industrious habits inculcated and cherished by their system.

THE PILGRIMS OF 1620.

Yon bounding bark! that ploughs the wave,
With flowing sheets and gay!
Around whose sides the waters lave,
Or dash in wreathing spray!

* * * * * *

An unknown voice is borne on the breeze,
As it hoarsely utters such words as these:—

'What seek ye? Are ye outlawed men,
That dare this fatal shore?
If guiltless, turn your course again
To where ye dwelt before.
Seek ye for gold? No yellow mine
Can lure the sordid here;
But dark grey rocks in grandeur shine,
And snow-capt cliffs of fear.
Seek ye for ease? Ye seek in vain,
Here toil and hardship live.
Yet health may yield you better gain
Than gold or ease can give.'

* * * *

The sounds have ceased. Amid the storm
The Pilgrim speaks as to a living form:—

'We seek nor gold, nor guilty ease,
Upon your rock-bound shore.
We leave such prizeless toys as these
To minds that love them more.
We seek to breathe a freer air,
To worship God unchained.
We'll welcome pain and danger there,
Where rights like these are gained.'

* * * * *

And landed on a barren strand, 'mid winter's fiercest power,
Where suns more chill than warmth impart, at e'en the noontide hour,
How meekly bowed the Pilgrim down his all-unsheltered form
Before the Power that guides the blast and rides upon the storm;
And bless'd that God who cast their lot within this land of night;
And with it gave them peace of mind and conscience' hallowed light.
'Tois, danger, death, far better boons for children of the sky
Than chains that bind those coward souls that rather crouch than die.
Can we not fancy men like these, 'mid all their joys and pains,
Might feel at least, though utter'd not, these rough and simple strains:—

'Here rest we our fainting limbs, weary with toil,
We greet thee, wild land, as our home!
We have braved the rude tempest to dwell on thy soil,
We have ploughed through the deep ocean's foam,
We have left the white cliffs of our dear native land,
And deserted the homes of our sires;
On these shores, in this desert, our resolute band
Will kindle anew their bright cottage fires.

None here but our God and our conscience shall be
The Guide and defence of our path;
Far better endure where the soul may be free,
Than yield to oppression or quail at its wrath.
Oh, welcome then, welcome wild land of our rest!
Be welcome red battle and woe.
Far better, than slumber amid the opprest,
To wake the war-cry of the dark Indian foe.'

* * * * *

And woman's gentle soul responds with cheerful smile and tone,
A farewell to the father-land, a welcome to the new.

Yes, here will we rest, though the wild winds may blow,
Nor feel one emotion of fear;
We would wander o'er earth, and meet danger too,
If we wandered with those we held dear.

We resigned, for the love of the mother and wife,
Those friends that we left o'er the wave.
We have shed not a tear at the elements' strife,
For our bark bore the loved and the brave.

We will weep not o'er winter's domains,
Nor sigh for our land o'er the sea;
For our loved ones have spurned at their chains,
And we stand where the heart may beat free.
Though nursed in the bosom of comfort so long,
We will welcome both danger and pain,
For those eyes that were stern, 'mid oppression and wrong,
Now beam on us kindly again. P.

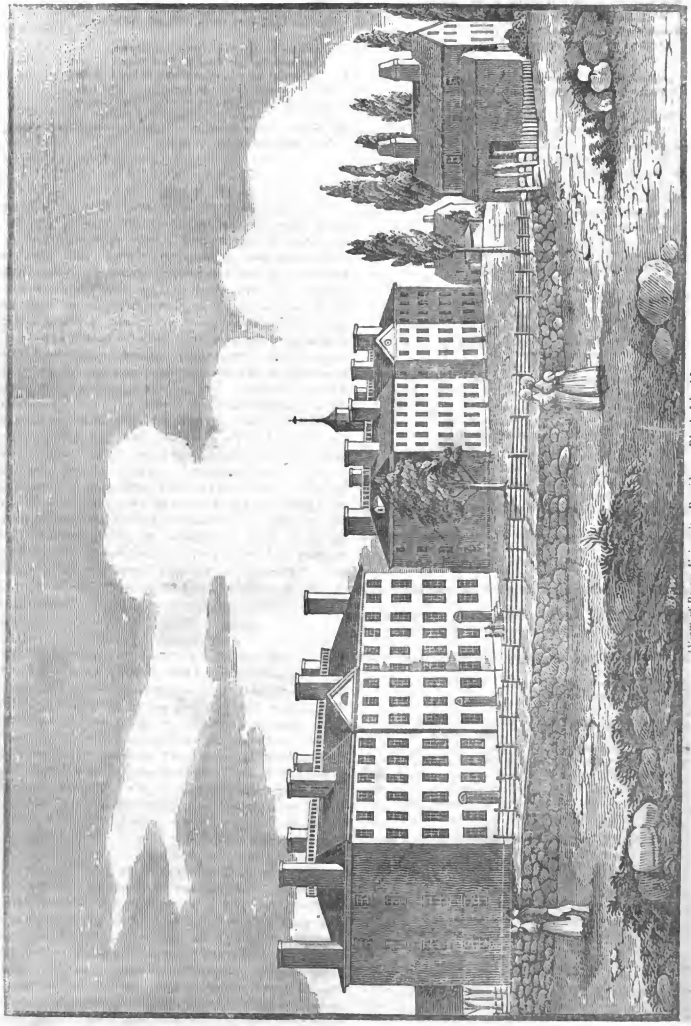
MILD LAWS.

'Laws are of no account, unless they go hand in hand with the sentiments of the people. A law becomes virtually a dead letter, if it is not generally considered just; it loses its essence, its terror, its sanctity; in fact it destroys itself, and is worse than useless. It is believed, that by softening the severity of the criminal code, there will be a tendency to diminish the enormity of crime, and to improve the character of delinquents. Severe laws make criminal subjects; and nothing tends more to demoralize and brutalize the character of the people, than unjust and severe laws. But ignorance and neglect of a moral education are also causes of crime; by a good moral education of youth, by mild laws, by giving employment to the poor, and thus preventing pauperism, we may hope, in a great measure, to prevent crimes in the community. A great portion of crime in our country is to be found among foreigners, who are pouring in upon us; but even they should be treated with due mildness; and by giving our own youth a good education, we shall increase the amount of a moral power, which will counteract the evils arising from ignorant emigrants. The laws should be mild, but their execution certain.'

ANON.

EXPENSES OF MILITARY ESTABLISHMENTS.—The nations of Europe begin to understand the folly of involving the whole country in misery, and their governments in irretrievable debt and ruin. Throughout Europe there are more than 2,300 000 men under arms; which is about one to 100, the whole population being about 225 000,000. If each soldier is capable of earning only eighteen pence a day, we have a dead loss of £172,500 a day, being £53,990,500 a year. To this, may be added the amount for military equipments, ammunition, clothing and horses, which might be profitably employed on farms.

Rochester, in the state of New York, is probably the greatest flour market in America. Several of the flour-mills are of stone, and eight stories high, and nearly three hundred feet long. There are twenty-one mills, with ninety-six runs of stone in Rochester. Seventy thousand bushels of wheat are required daily to keep them in operation. They can manufacture and put up ready for market five thousand barrels of flour daily. It is estimated, that during the last year, up to August, 600,000 barrels of flour were sent to market from that place, and worth about four millions of dollars.



[View of Brown University, Providence, Rhode island.]

BROWN UNIVERSITY,

At Providence, State of Rhode Island.

This seminary receives its name from NICHOLAS BROWN, who was a citizen of Providence, its most munificent benefactor. Mr. Brown was an eminent merchant, and a man of great moral worth. He was a donor to the institution at an early period, and afterwards added largely to his first donation. The seminary was originally established, by the General Assembly of Rhode Island, at Warren, in the year 1764; and in 1770 it was removed to Providence, as a more central part of the State. There was but one commencement at Warren. The present location is, on many accounts, preferable to Warren.

This seminary was formed by the Baptists, who were desirous of having an institution for the education of their children under their own direction. It is established, however, on liberal principles; and there is nothing, strictly speaking, sectarian, or exclusive in its regulations. The Baptists are now great advocates for human learning in public teachers of religion; and Brown university has imparted a very favorable influence in this respect with that portion of the community who are of the Baptist denomination. The high character of its presidents for talents, learning and liberality, has contributed greatly to this result. Dr. Manning, the first president, was a man of solid and popular talents; and he presided over the college many years. Rev. Dr. Maxcy, his successor, was also a learned and popular character. He early attained to uncommon celebrity, and was appointed to the presidency of the university in South Carolina. President Wayland, who is now at the head of the university, ranks among the very able and talented men in the United States; and he seems both fitted and disposed to advance the interest and reputation of the institution. Before he was called to preside over the university he was an ordained minister of a Baptist church in Boston; and has the character of an eloquent and powerful preacher.

The government of the university is vested in a Board of Fellows, consisting of twelve members; eight of whom, including the president, must be Baptists; and a Board of Trustees, of thirty-six members; twenty-two of whom are also required to be Baptists, five of them Friends, five Episcopalians, and four Congregationalists. The persons engaged in the instruction and immediate government of the university are the president, four professors, and commonly three tutors. The number of students in the university has much increased within a few years. Twenty-five or thirty years ago the classes seldom contained more than thirty each, making the whole number about one hundred and twenty; they have lately increased nearly one fourth, and are now about one hundred and seventy. The studies required of the students are similar to those enjoined in other universities and colleges. The library is large and valuable, and has been much increased within a short period. It is amply sufficient for the undergraduates, and the more advanced scholar may find many volumes to aid him in scientific researches. It contains nearly 12,000 volumes. The philosophical apparatus is extensive and complete; having been lately much increased by private munificence. There are three vacations, amounting to thirteen weeks in the year; three weeks in May, four in September, and six in the winter season. The whole number of students who had been graduated at the university* in 1828 was about 1250; they may now safely be estimated at 1500. The south part of Massachusetts furnishes a large portion of the students in Brown university. A greater number probably are educated there than at Harvard university, (Cambridge) from Bristol, Plymouth and Norfolk counties. Those who are Baptists generally send their children to Brown university; and the expense for board and tuition there was formerly much less. But the difference at present is not so great.

The days of persecution, and of bigotry too, we hope have passed away. There is now a spirit of Christian candor prevailing among different sects, which must tend greatly to the peace and quiet of society; and we cannot but hope will shed a happy influence on the interests of piety and moral virtue. The Congregationalists, the Baptists, the Episcopalians and the Methodists, harmonize far more than formerly; and the experiment has proved, that while each sect has the free enjoyment of its particular forms and rites, the cause of true piety and righteousness has been promoted. There are some gross, revolting and licentious opinions in the world, which the pious Christian cannot approve nor countenance; but persecution is not a weapon given us by our divine Master to wield; and it is equally opposed to the mild spirit of the gospel, as to the dictates of an enlightened philosophy. The Baptists were formerly chargeable with wild and extravagant opinions, and in some instances with disorderly conduct; as appears from their early history. The Episcopalians, two hundred and fifty years ago, were arbitrary and oppressive in their treatment of the puritans; and so, also, it must be admitted, the puritans and congregationalists were intolerant, when they had the power. Much in all these, probably, was error of judgment. But we find we can live happy and virtuously, without calling down fire from heaven on our differing, or erring brother; and that it is more Christian, as well as more humane, to attempt to reform, or to forgive, or to let alone, than to persecute, banish or imprison. Some of our early clergy held Christian communion with Baptists; and some, at this day, are disposed to unite with other denominations in promoting the cause of Christian truth and virtue. And every pious and intelligent man must rejoice in this state of things; for where charity and love abound, other social virtues will be sure to increase and prevail.

The buildings of Brown university are on very high ground, in the south-eastern part of Providence, commanding an extensive view of the bay and the surrounding country. There are two large halls, both of brick; university-hall, one hundred and fifty feet in length and forty-six wide, four stories high; which contains fifty-one rooms for officers and students, and a chapel, library and philosophical

* It was at first a college, and was made a university at a later period.

room; and Hope college, built about fourteen years ago, one hundred and twenty feet by forty, and four stories high, having forty-eight rooms for the teachers and students. Subscriptions have been made to the funds of Brown university within a few years, to a large amount. The institution was never in a more prosperous state than at present, and the prospect of its extensive usefulness to the community is cheering to its particular friends, and to the friends of literature through the country.

In 1833, Mr. Nicholas Brown, one of the Board of Trustees, an opulent citizen of Providence, gave a large sum for a new building, eighty-six feet long, and forty feet wide, and three stories high; which contains lecture rooms, a library, chapel, and philosophical hall. Subscriptions were also obtained in 1833 and 1834, to a large amount, for purchasing books and a chemical apparatus. The whole expense for tuition, board, and room rent, is about $130 a year; and young men of good moral character are permitted to pursue the studies of a class, in such branch as they desire, without attending to all the branches required of such as are to have degrees; but are not of course enrolled among the graduates.

MOSCOW.

Having given a view and sketch of Petersburg, the present capital of Russia, we have thought it would be acceptable to give a drawing of Moscow, the ancient capital of that extensive empire. 'It is one of the most extraordinary cities which now exists, either in Europe or Asia. It presents whatever is most striking in both continents. It surpasses in splendor the greatest capitals in Europe; and, in poverty, its poorest villages. According to the happy image of the Prince de Ligne, "it looks exactly as if some four hundred old castles of the nobles had been transported thither; each bringing its little attendant village of wooden cottages. Wretched hovels are blended with large palaces; buildings of one story stand next to the most superb and stately mansions; many brick structures are covered with wooden tops; some of the wooden houses are painted, others have iron doors and roofs." Dr. Clarke says, "one might imagine that all the States of Europe and Asia had sent a building, by way of representative, to Moscow; timber huts from regions beyond the Arctic; plastered palaces from Sweden and Denmark; painted walls from Tyrol; mosques from Constantinople; Tartar temples from Bucharia; pagodas and pavilions from China; cabarets from Spain; dungeons and prisons from France; architectural ruins from Rome; terraces and trellises from Naples; and warehouses from Wapping. Some parts have the appearance of a sequestered desert, and the traveller is tempted to ask, Where is Moscow? till he is told, This is Moscow." Dr. Clarke says, here are to be seen wide and scattered suburbs, huts, gardens, pigsties, churches, brick walls, dung-hills, palaces, and warehouses; and a refuse sufficient to stock an empire. In other parts, the throng is so great, that the traveller asks, what cause has convened such a multitude? and learns it is the same every day. From the Kremlin, where all its deformity is hidden, and the eye roves over towers, domes and spires of temples and palaces, Moscow presents an aspect of rude and varied magnificence, which no other capital can equal.

The sumptuous edifices of Moscow are very numerous; as, even since the transference of the government and imperial family to Petersburg, most of the nobles still make it their residence. Many of their palaces or castles are truly magnificent. But the Kremlin is the most extraordinary of all the buildings of this extraordinary city. It is a sort of an enclosed town, which, besides the ancient palace of the czars, contains the two magnificent churches of St. Nicholas and the Assumption, numerous chapels, government houses, houses of the priests, and other public officers. The original style and pavilion-like aspect is Asiatic; yet there are extensive portions constructed in the Grecian style; here a pagoda, there an arcade; in some parts richness, and even elegance; in other parts, barbarism and decay. It is a jumble of magnificence and ruin; old buildings repaired, and modern ones unfinished.

Among the wonders of Moscow is the great bell, of more than 22,000 tons, and worth £70,000; said to be the largest in the world, being sixty-seven feet in circumference. The church of St. Basil is a very curious structure, from its complete Tartar style and its heavy cupolas. Moscow now contains only about 250,000 inhabitants; being far less than formerly. This famous city was partly burnt when invaded by Bonaparte, in 1812; but it was said to be the work of the inhabitants themselves, with a view to disappoint and distress the army of that princely robber. In 1814, for the space of twenty-five miles in circumference, there was the most gloomy aspect of desolation. In 1817, the emperor Alexander began a temple of our Saviour, which, when completed, will be perhaps the most magnificent building in the world. It is to be 770 feet high, having three successive churches rising above each other, the lowest to be fronted by a colonade 2,100 feet long.

The city generally has been rebuilt; indeed it is said by a late traveller, that where 6000 houses were burnt, 8000 have been built within the last twenty years. Moscow is in what has been called Great Russia, and is between four and five hundred miles east of Petersburg. The condition of the greatest part of the Russian peasantry is very degraded; they are kept in ignorance, and are cruelly oppressed by the officers of the government; they are no better than slaves. The serfs of the crown are 6,300,000, and those of individual noblemen 10,000,000. The number is very great of those who belong to the nobility: in Moscow alone there are 15,000; and they are nourished by the labor and sweat of the miserable serfs.

THE INTELLECT AND THE SENSES.

The intellectual faculties are necessary to expand, to refine and to elevate the senses. The mere animal has senses to behold the earth and its wonderful varieties; but heeds them not, farther than to secure existence and safety. The child possesses senses as acute and strong as the adult philosopher. He sees the light, the sun and stars, the trees and flowers, the rivers and the sea: but he does not see them as the scholar, as the man of science, or even as one of common observation and experience. He perceives but a part, at least, of the variety and beauty of the natural world. He is hardly sensible at all of the laws of nature, of the connexion of cause and effect, of the order and harmony in the physical world. A cultivated intellect is necessary to perceive these. It is this which enables us to discriminate, and to detect analogies and harmony, where all seems confusion to the superficial and ignorant. We thus behold nature with a new sense, as it were. We discover, every where and in all departments, new beauties and combinations, new influences and laws in operation. We perceive a wonderful adaptation in all the works and laws of nature to useful and beneficent results. And we are led to exclude the idea of chance, or accident, or the operation of mere matter. All affords evidence of design, of wise and benevolent design. There is no object or law in the natural world, which does not excite admiration, on account of the skill displayed and the effect produced. The botanist looks on flowers, trees and vegetables, with an eye which discloses beauty and order, not perceived by others. The astronomer beholds the planets, and sun and stars, with other eyes than the unlettered peasant. The order and harmony displayed in the motions of these heavenly bodies through infinite space, impelled and sustained by different forces or power, excite his astonishment, and exalt his sentiments of the great Creator and Governor of the universe. He perceives one great law in operation, producing uniformity and harmony, where those ignorant of this sublime science are sensible only of motion, and that apparently in no regular order. Even the geologist, who has examined the surface or bowels of the earth, perceives the effects of general laws of operations, and finds a great degree of regularity in the relative position of sand and rocks, which to other men exhibit a heterogeneous mass, without order or system. He may be at a loss, as to whether the great convulsions of this globe were caused by flood or fire, or both united; still he finds various rocks and strata of earth and clay, which indicate the influence of laws, such as are known to operate in the material world.

We should learn, then, to behold and examine the various objects around with the eye of a philosopher; and may I not add, with the heart of a Christian. We shall perceive that an infinite power hath created all things, and has impressed on all a law, which produces similar effects, and manifests a wise and benevolent design. When we go forth into the fields, or examine the products of the earth, or direct our view to the expanse above and around us, we shall meet traces of *the Hand Divine;* we shall find order in the midst of apparent confusion, design instead of chance, and an endless variety, yet indicative of a connexion of dependences, fitness of the various parts of one great plan, the work of combined power, wisdom and beneficence. Such contemplations are alike elevating and improving. They cannot but enlarge the mind, and gratify while they instruct. Here is a source of intellectual pleasure, which can never cloy, and of occupation which will never fatigue. And while it imparts serene and solid enjoyment, it inspires confidence in the wisdom and goodness of God, which is a consolation in all the changes and vicissitudes of life. He who cultivates such a taste

> 'Finds tongues in trees, books in the running brooks.
> Sermons in stones, and good in every thing.'

POLITICS WITHOUT PARTY.

Every man in our country may justly be a politician. He is even required to be so. He is bound to vote and to give his opinion; and this he cannot do intelligibly, nor as a freeman, if he does not endeavor to obtain information so as to vote correctly. He may, indeed, err; he may be deceived by mere party reports. But he is bound to inquire and form as just a judgment as he can, and to vote accordingly. And if he is a sincere republican, a true patriot, his maxim will be, 'principles, not men,' while the mere party man will adopt the opposite principle, and will support men without regard to their sentiments or character.

In a republican government every man has power, and he must be a politician, to know how he shall most wisely and faithfully exercise his power. And the great principles of government are easily understood. For there need be no mysteries in a republic. So, the true characters of public men may be known by proper inquiry, if we lay aside unreasonable prejudices and partialities. And whether the measures of rulers are just and wise may be learnt with proper inquiry and reflection. It is the duty of the people to watch their public agents and servants, to know if they conform to the constitution, or if they usurp power not given them, or exercise it arbitrarily and with partiality. In this respect, the people are masters. They may call their servants to account, and inquire if their measures are equitable, judicious and expedient. The constitution is the measure of power to rulers, and it is the work of the people. If they are true to themselves and to posterity, they will see to it that it is not perverted nor violated by those appointed to administer it. This they may do, without idle complaints, or interrupting the regular course of government.

The honest and disinterested politician, being desirous of the liberty and welfare of the whole body of the people, will seek to maintain the constitution, as this is the guaranty of equal rights and equal laws. And the advocates for the constitution, in its original purity, deserve our confidence and trust. We *may* prefer such men, without being partizans. And we *shall* prefer them, if we wish to preserve constitutional liberty. And no other liberty should be desired. Liberty without law would soon end in licentiousness and anarchy. And equal and just laws cannot be expected to be enacted, except the principles and provisions of the constitution be duly

regarded by our legislators. So far as this, every man in the community is bound to judge and act. He is responsible to the republic and to posterity for the part he acts, however humble it may be. And our liberties are safe only so long as the people generally feel this responsibility, and perform the duties it imposes. They must rise above party feuds and strife; they must join no cabal or faction, nor follow any selfish and ambitious leader. The inquiry should be, when any one is presented for our support or vote, is he a sincere friend of the constitution, is he an able and worthy character: or, in the words of Jefferson, 'is he honest, is he capable, is he attached to our republican government.'

All this we admit in theory. The difficulty is, to regard it in practice. And here the great duty is, to guard against prejudice and party excitement. We should inquire for ourselves and follow our better judgment; and not suffer our passions to be excited by the selfish and designing.

Parties have always been the ruin of republics. They are the madness, or folly, of many for the benefit of a few. They are inimical to the peace and harmony of society, and must be fatal to rational liberty. They are becoming more violent and bitter in the United States. And all good men, while they disapprove and regret them, are called upon to do something to allay rather than to excite or perpetuate them. There will be some differences of opinion; but there need not be violent parties. When these prevail, the contest will be for personal and selfish purposes, instead of equal liberty and justice to all.

The true patriot will be decided and zealous for the welfare of his country; but he may have moderation as well as zeal. He will thus be able to check the violence of mere partizans; and he will give his influence with effect in times of great strife, in favor of truth, of justice and right.

In almost all parties there is more or less of error and prejudice. And this is a consideration for not enlisting in a party, and engaging to support all the measures of the leaders. No honest, independent character can be a mere party man. He may much prefer one party to another, and approve of the measures of one generally, and far more than the other; and therefore may support one and oppose another party with propriety. Yet he will dare be honest, rather than be blindly devoted to any; and thus will sometimes dissent from measures proposed by his political friends, for the sake of conscience, and from a high regard to the welfare of the country.

Nor should a man fear to be charged with indecision. Independence is much more likely to exist in one who sometimes dissents from his party, than in approving and supporting all its measures.

The young, whose feelings are quick and strong, are most liable to enlist in party contests. And when once enlisted, it 's no easy thing to break away from the bonds we are laid under. We like to see young men take an interest in the concerns of the republic. It is right they should do it. They are soon to have in their hands the destiny of the nation. Let them engage in inquiries which will afford them the information necessary to act wisely and judiciously. But they should endeavor to be impartial and disinterested, and as little subject to party prepossessions as possible. Our political disputes may then be expected to be conducted in a good spirit, and for the promotion of equal liberty; but if party passions are to be indulged and followed, with a reckless disregard of consequences, it requires not a divinely illuminated seer to predict the final triumph of faction, misrule and despotism.

TURKISH DESOLATION.

'My way was along the shores of the *Hellespont*; the weather had become moderate, and the storm was succeeded by a balmy sunshine. I cannot describe the exquisite beauty of the undulating downs, which extend along the Asiatic side of this famous sea. The green sward sloping down to the water's edge, intersected every mile by some sweet woody valley, running up into the country at one extremity, and terminating, in the other, by a romantic cove, over whose strand the lucid waves rippled. The sound of the waters had something very soothing and harmonious; and as I made my solitary way in silence along the shore, I thought the waves gave the sound poetically described by Homer. Here the first picture of Turkish desolation presented itself. While those smiling prospects, which a good Providence seems to have formed for the delight of man, invite him to fix his dwelling among them, all is desert and desolate as the prairies of Missouri. In a journey of nearly fifteen miles along the coast, and for half the length of the *Hellespont*, I did not meet a single human habitation; and this in the finest climate, the most fertile soil, and once the most populous country in the world.'

The Siamese Twins are now in Paris. They are said to be five feet in height, very active, and of great muscular strength. They walk, and run and swim, as well as any single person. Their intellectual powers are also well developed. When two persons attempt to talk with them separately, at the same time, they turn invariably to one speaker, and converse alone with him. They suffered much from ague (in America); the attack was at the same time on both, and the stages of the disease exactly corresponded. Their taste for food, persons and things, is similar; they experience hunger and thirst, go to sleep and awake, at the same instant; and to wake both, it is only necessary to touch but one. There is the utmost uniformity in their motions, as if influenced and directed by one will. They have never been known to be angry with each other. One who wishes to perform any act makes no sign to the other, who, yet, concurs without hesitation and at once. A proposal to divide the tegument or band which binds them together, is highly disagreeable to them; and they say 'that they have seen no single person so happy as they are united.'

Clergymen differ chiefly, says *Noah Webster*, on speculative points in religion. In the fundamental points they are, probably, nearly all united; and in support of them they would join in solid phalanx to resist the inroads of licentiousness.

RAIL-ROAD FROM BOSTON TO PROVIDENCE.

A rail-road between Boston and Providence was projected in 1831, and in June of that year a company was incorporated for that purpose. It was proposed by a part of those in favor of the project, to have the road directly from Boston to Taunton, a very flourishing manufacturing town; and thence to be continued to Providence; and also to have a branch from Taunton, through Fall River, to New Bedford. Taunton is not on the most direct route to Providence; and by going through Taunton, the distance from Boston would be increased four or five miles. So much was said in favor of the way by Taunton, however, that the engineer was directed to survey the country, with a view to have the road going either by way of Taunton, or directly to Providence, leaving Taunton several miles easterly of it. Three routes were surveyed in the summer and fall of 1831; two of which were by way of Taunton, and the other on nearly a direct course from Boston to Providence. In 1832, it was concluded to construct the road on the route surveyed in nearly a direct line to Providence; which passes through Roxbury, Dedham, a little east of the village, and through Canton, Sharon, Mansfield and Attleborough; whereas the route to Taunton would have been through Dorchester, the south-east part of Milton, Randolph, North Bridgewater and Easton: the first being forty-one miles, and the other forty-eight miles.

A company was formed at Providence in 1834, for continuing the road from the dividing line of Massachusetts and Rhode Island to the tide water in the city of Providence. The work was begun in Massachusetts in 1834, and some portions of it were finished; but the whole distance was not made and passed till 1835.

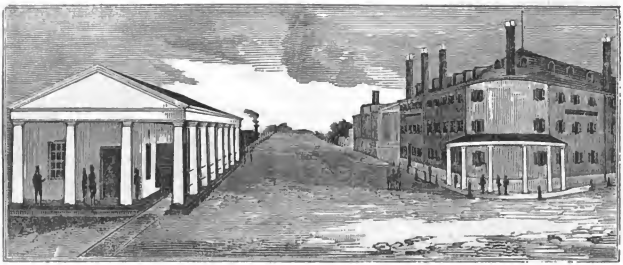
The road commences in Boston, near the south-west corner of the common, and crosses the flats, water and meadow, in a south-western direction, (passing also over the Boston and Worcester rail-road, at a short distance from the depot in Boston,) passes through Roxbury, and runs within about two miles east of the village of Dedham; thence through part of Canton and Sharon, as before mentioned. The greatest difficulty occurring was at the heights in Sharon. But this being the most direct route, the additional expense was not considered sufficient to prevent that course. The greatest ascent, after some excavation, is thirty-seven feet per mile: the distance is about five miles. The descent from the ridge in Sharon towards Providence, on an average, is ten or eleven feet per mile, and in no place more than twenty. This ridge, or height of land, in Sharon, is twenty-three miles from Boston, and seventeen from Providence.

From this road a branch has been made, two miles in length, leading to the village of Dedham, and also from the town of Mansfield to Taunton, a distance of eleven miles. On this last branch, the cars are uncommonly well made and the travelling very easy. The main road and branches are each laid with a single track. Capital employed on the main road, $1,250,000. It is proposed to extend the road to Stonington, in Connecticut, there to be connected by a ferry with the Long Island rail-road, also in contemplation, to run from Brooklyn to Greenport. The first of these works is in progress and nearly completed; and a company has been incorporated for making the road on Long Island. This will give a continuous line of rail-road from Boston to New York, the ferries at Greenport and Brooklyn excepted; length of rail-road 186 miles, ferry 25, whole distance 211 miles.

Two trains of cars for passengers pass daily from and to Boston and Providence, and also a train whose time of arrival and departure is accommodated to the time of the boats from New York to Providence. The time taken for the passage between Boston and Providence is usually about two hours and a half.

The viaduct over the pond at Canton is a work of magnitude, and as an object of curiosity is one of the most interesting points in this road.

This structure, resembling in general appearance a large stone bridge, which in fact it is, is built of large blocks of granite laid in range work, the beds and ends of the blocks dressed. The two walls extending the whole length of the work, are connected at intervals of twenty-seven and a half feet by buttresses five and a half feet thick, extending across the walls and projecting four feet beyond their faces. The main walls are four feet thick, at four and a half feet below the grade of the road, with a battre of one foot in forty-eight. The exterior surface of the buttresses and abutments have a like battre of one foot in forty-eight. There is one grand arch for a road way, of twenty-two feet span, and seven



[View of the Boston and Lowell Rail-road.]

arches of eight feet span for the passage of the water. The main arch is twelve feet above the road, and the other arches six feet above the highest surface of the pond. The viaduct is terminated, at each end, by buttresses and a circular wing wall.

BOSTON AND LOWELL RAIL-ROAD.

A rail-road from the capital and commercial emporium of Massachusetts, to Lowell, the greatest manufacturing town in the State, was very early projected. It was obviously important, after it was known that Lowell was rapidly increasing, and the manufacturing establishments greatly extending, that the mode of conveyance, both for men and goods, should be facilitated as to time and expense. The passing of boats on the Middlesex canal, which extends almost the whole distance, is very slow; usually not more than three miles an hour. The turnpike was, in most cases, a far better mode of conveyance. Rail-roads were then in operation in England, and highly approved as means of conveying passengers and goods to and from the manufacturing towns.

No town in New England has grown up so rapidly as Lowell. It is but about fifteen years since the settlements began; and it now contains seventeen thousand inhabitants. The capital employed in the manufacturing business is over seven and a half millions. In 1830, the travel between this place and Boston had become very great; and during that year a company was incorporated for constructing a rail-road; and in 1835 it was opened for travel. It is constructed in a strong and durable manner. It has an iron edge rail, resting on cast-iron chairs, on stone blocks, and a stone foundation.

The distance, from the northwest part of Boston, where the road begins, to Lowell, is twenty-five miles and one thousand feet. For a great distance it is nearly strait. The time usually occupied in the passage is one hour and fifteen minutes. There is a cut through a solid rock or ledge, of six hundred feet, which was made at the expense of forty thousand dollars. In the summer season, there are four trains of cars each way, every day in the week, excepting Sundays. The fare for a single passenger is one dollar; and goods are transported at far less expense than they can be in any other way. The first cost and additional expenses to the close of 1835 amounted to 1,500,000 dollars; and the receipts up to the same time, being the income for conveying people and goods, including monies paid for assessments on shares, were $1,361,000; of which $45,000 was received of passengers and owners of property transported. It is proposed to have a double track on this rail-road; and a second has been commenced, the cost of which is estimated at 300,000 dollars.

The usual rate of travel has been already stated. The cars *can* be run in much less time, and have, in some instances, passed over the whole road in fifty-six minutes. The number of persons conveyed on this road during the present year is far greater than the last; but the precise number we are unable to give.

It is intended to extend the road to Nashua, in New Hampshire; and thence to Concord in that State. A branch from South Andover, to unite with the Lowell road at Wilmington, a distance of seven miles and a half, has been opened this year; and it is proposed to continue it from Andover to Haverhill.

Reference has been made, in a former number, to the rapid growth and great prosperity of Lowell; and also to the cut through the ledge; and it is therefore unnecessary now to go into details as to the statistics of this young and promising city.

Sewing Silk: *From a Pennsylvania paper.*—We have seen a specimen of *sewing silk,* the first manufactured in this county, *(Berks,)* which is highly creditable to the fair *operative.* It was the entire production of a young lady, who reared and fed the worms, spun the silk from the cocoons, and doubled and twisted it with her own hands. This is a good example set to young ladies, which we think many will follow; for large quantities of mulberry seed have lately gone into different parts of the county. The charms of a young lady dressed in the fabric of her own hands, would be irresistible, and the beaux worth having would eagerly press forward for her hand.

It is supposed that the *Phœnicians* first introduced metal and earthen among the early inhabitants of Great Britain, about eight or nine hundred years before the Christian era.

THE TEAL: ANAS CRECA.

This is an aquatic bird, of the duck family. It inhabits northern regions, and is found both in Europe and America. It is the least bird of this family; and it frequents ponds, marshes, and the reedy shores of rivers, bays and creeks. It is often found in fresh ponds, at a few miles from the sea. It feeds in the night, and commonly flies in small flocks. The flesh of this bird is excellent, and is much sought for by epicures. The female lays about a dozen eggs, and about the size of those of a pigeon. Their nest is large, and is generally concealed in a hole among the roots of reeds and bulrushes, near the water. The usual size of the teal is fifteen inches in length; the top of the head, the cheeks and neck, are chestnut red; the throat is black; a broad green band extends from the eyes to the nape; the inferior part of the neck, the back and sides are alternately striped, with zig-zag lines of white and black; the breast is reddish, varied with round spots; the belly is white, or yellowish white; the wing coverts are brown; the speculum of the wings is half white, half black, and edged with two white bands; the legs are ash-colored. This bird seems in most respects like the red-headed duck, which is excellent food.

NORTHERN PARTS OF NORTH AMERICA.

The immense territory in North America, within fifty and seventy degrees of latitude, and eighty and one hundred and thirty degrees of west longitude, was very little known to the civilized world, until within fifty years past; or, in other words, 'all that vast tract between Lake Superior, in latitude forty-eight, and the Arctic, or Frozen ocean, in seventy, and between Hudson's bay and the Pacific ocean, embracing about fifty degrees of longitude;' and being nearly fourteen hundred miles square. This extensive and almost boundless region was known only to the scattered and wandering tribes of Indians; except that some English adventurers had penetrated short distances, before that period, west from Hudson's bay, and north and west from Lake Superior, for the sake of the fur trade. The animals, the soil and growth of this whole territory was matter of conjecture, depending on the vague traditions and stories of the savages.

Half a century ago a great portion of this unexplored territory was traversed by McKenzie, an intelligent and observing character, but not a man of science or learning. He took his departure from Upper Canada, and proceeded north and west, to the North or Arctic sea and to the Pacific ocean. He spent several summers in these travels of discovery, from 1788 to 1792. His chief object was trade and profit; and yet he had a desire to make discoveries in this unknown part of the globe, and to give an account of it to his country. He visited the Lake of the Mountains in about fifty-eight degrees, and proceeded to the great Slave Lake, in sixty-three degrees. From the Lake of the Mountains, he ascended Peace river, so called, which takes its rise in the Rocky mountains; and from the Rocky mountains, on their western slope, flows the Oregon, or Columbia river, usually called Taeoutehetesse, by the Indian tribes in that vicinity. There are several streams running into one another between the Rocky mountains and the Pacific ocean; the principal branch runs a great distance from the north in a southern direction; and then meeting with other streams turns westerly to the ocean. It will be observed then, that the Peace river commences at the Rocky mountains, and running nearly east, falls into the Lake of the Mountains, in latitude fifty-eight degrees, and longitude one hundred and ten degrees; that the waters of this lake are connected with the great Slave Lake, by a river upwards of two hundred miles to the north, of the same name; and that the Slave Lake pours its waters, by the McKenzie river, (now so called) into the Arctic or Frozen ocean, at about seventy degrees of latitude. And thus the waters rising on the north-eastern sides of the Rocky Mountains, (the back-bone of the country for a very great distance from north to south) run into the Arctic sea, through the Mountain and great Slave Lakes, and connect a vast tract of territory. These

lakes are very extensive, as much so as any dividing Upper Canada from the United States, and larger than any except Lake Superior, and as long indeed as that inland sea. McKenzie knew it to be the ocean, as he observed whales, and perceived the flux and reflux of the tide. He first discovered it July 12, 1789.

From the mouth of McKenzie river, which is connected with the Arctic ocean, to the place where adventurers from Hudson's bay had discovered it in 1771, is only seventy leagues; and the distance, from the mouth of McKenzie river to the coasts, northeast of Behring's Strait, discovered by Captain Cook, is about six degrees, which being comparatively minute in so high northern latitude, is scarcely 200 miles.

In this region there are several extensive rivers, falling into lakes, Hudson's bay and the Frozen ocean: the principal ones have been already mentioned. There are also several ranges of mountains in this territory. The Rocky Mountain range is the most remarkable; and is but the continuation of the Andes, in South America, which crosses the Isthmus of Panama, and stretches from south to north, generally parallel to the South Sea. There are other ranges though less extensive, which are covered with snow through the year, and feed the rivers running into Hudson's bay, on one hand, and into the Arctic ocean, on the other.

Within a few years, this vast region has been visited and explored in various parts, by intelligent Britons. The latest of these was Captain *Back*, of the royal navy, in 1833, and 1834, who undertook a land journey through the country from Upper Canada to the Great Slave Lake in latitude 63; and thence farther north, with a view to discover and relieve Commodore Ross, who had proceeded to the polar regions in 1832; and who it was supposed, if still surviving, must need assistance to enable him to return. Besides interesting descriptions of the face of the country, and of its natural productions, Mr. McKenzie, Capt. Back and others, have given some accounts of the native Indians, which serve to display their peculiar traits of character. A fact is stated by McKenzie, in natural history, which other accounts serve to confirm. Many trees are seen thrown down and blackened by fire, in the midst of which young poplars appear; having risen up since the conflagration. When forests of firs and birches are consumed by fire, poplars spring up in their stead.

Mr. McKenzie refers to the religious sentiments of the Indians, and particularly to their veneration for the sepulchres of their ancestors and relatives. Near every Indian establishment, were cemeteries or places of sepulture; and thus proof is afforded of their respect for the departed, and of their hope of immortality. These ignorant savages bless God for what they enjoy, and deduce from present sufferings a hope of another life. May not civilized and Christian people here find reproof, or a lesson in piety! And is there not an opening for sending the light of the gospel into these dark regions of the earth? These tribes are generally described as mild, docile and friendly. They have treated the English, who have gone among them with kindness, and never injured or betrayed any, except first unjustly provoked. They appear willing to receive instruction from the English; and there is as much hope of doing them good by making the gospel known to them, as there was of the Moravians benefiting the degraded Esquimaux. They suffer much in these northern regions; but the influence of religion might lead them to civilization; and they might thus make their abodes more tolerable and comfortable.

The animals in this region are the bison, musk ox, Rocky Mountain sheep and goat, the moose-deer, rein-deer, or Cariboo, the red-deer, the pole-hare, American hare, beaver, lynx, Arctic fox, wolf, polar bear, barren-ground bear. There are also a variety of birds peculiar to this northern region; or of a different species from those found in other climates, as the eagle, owl, grouse, hawk, goose, swan, and many of the smaller tribe. So of fish and insects, the species are very numerous; and the geology of the country presents much to interest those who are directing their attention to this department of science.

The following article we copy from the Philadelphia U. S. Gazette. It was written by a lady whose husband had experienced the "waywardness of fortune," and had sought reparation to his wounded hopes on the "deep, deep sea."

PRAYER, FOR AN ABSENT HUSBAND.

Father in Heaven!
Behold, he whom I love, is daily treading
The path of life in heaviness of soul,
With the thick darkness now around him spreading
He long hath striven,
Oh, thou most kind, break not the golden bowl.

Father in Heaven!
Thou who so oft hast healed the broken hearted,
And raised the weary spirit bowed with care,
Let him not say, his joy hath all departed,
Lest he be driven
Down to the deep abyss of dark despair.

Father in Heaven!
O grant to his most cherished hopes a blessing,
Let peace and rest descend upon his head;
That his torn heart, thy holy love possessing,
May not be riven,
Let guardian angels watch his lonely bed.

Father in Heaven!
Oh may his soul be stayed on thee; each feeling
Still lifted up in gratitude and love,
And may that Faith, the joys of Heaven revealing,
To him be given,
'Till he shall praise thy name in realms above.

M. St. L.

CHARITY.—*Written for a Fair.*

Nymph of the pitying eye and pensive smile,
Leave the pure realms of light awhile,
Come with thy gentle glories fill the shrine
We consecrate to thee and thine.

Hail Heaven-born Charity—thy welcome aids
Answer the summons of thy vestal maids—
Warm-souled, pure hearted, loveliest of the three,
Faith, Hope, thy sisters, to thy kneel to thee.

Thrill through the hearts of those that linger here
Thy gentle pity at the poor man's tear,
Let those that came to scoff remain to lay
A willing homage on thy fane to day.

Crown our best hopes with blessings from on high,
Build thine own temple to the vaulted sky—
Spread thy broad mantle o'er the hearts of all,
And oh protect them from the miser's thrall.

P.

COMETS.

There is a class of celestial bodies occasionally appearing in the heavens, to which the name of *comets* has been given. They are distinguished from the other celestial bodies, by their ruddy appearance and by a long train of light, called the *tail*, which sometimes extends over a considerable portion of the heavens, and which is so transparent, that the stars may be seen through it. The tail is always directed to that part of the heavens which is opposite to the sun, and increases in size as it approaches him, and is again gradually diminished, as the comet flies off to the more distant regions of space. Their apparent magnitude is very different; sometimes they appear only of the size of the fixed stars; at other times they equal the diameter of venus; and sometimes they have appeared nearly as large as the moon. They traverse the heavens in all directions, and cross the orbits of the planets. When examined through a telescope, they appear to consist of a dark central nucleus, surrounded by a dense atmosphere, or mass of vapors. They have been ascertained to move in long narrow *ellipses* or *ovals*, around the sun; some of them on their nearest approach to him, having been within a million of miles of his centre; and then fly off to a region several thousands of millions of miles distant. When near the sun, they move with amazing velocity. The velocity of the comet which appeared in 1680, according to Sir Isaac Newton's calculation, was eight hundred and eighty thousand miles an hour. They appear to be bodies of no great density, and their size seldom exceeds that of the moon. The length of the tails of some comets has been estimated at fifty millions of miles. According to Dr. Herschel's computations, the solid nucleus, or central part of the comet which appeared in 1811, was only 428 miles in diameter; but the real diameter of the head, or nebleus portion of the comet, he computed to be about 127,000 miles. The length of its tail he computed to be above one hundred millions of miles, and its breadth nearly fifteen millions. It was nearest to the earth on the 11th of October, when its distance was 113,000,000 of miles. The number of comets which have occasionally been seen within the limits of our system, since the commencement of the Christian era, is about 500, of which the paths or orbits of ninety-eight have been calculated.

As these bodies cross the paths of the planets in every direction, there is a chance that some of them might strike against the earth in their approach to the sun. It is impossible to predict the consequences of such a meeting. But we may rest assured that that Almighty Being who at first launched them into existence, directs all their motions, however complicated; and that the earth shall remain secure against all such concussions from celestial agents, till the purposes of his moral government in this world shall be fully accomplished. What regions these bodies visit, when they pass beyond the limits of our view; upon what errands they are sent; when they again revisit the central parts of our system; what is the difference in their physical constitution, from that of the sun and planets; and what important ends they are destined to accomplish, in the economy of the universe, are inquiries which naturally arise in the mind, but which surpass the limited powers of the human understanding at present to determine. Of this, however, we may rest assured, that they were not created in vain; that they subserve purposes worthy of the infinite Creator; and that wherever he has exerted his power, there also he manifests his wisdom and beneficence.—*Christian Philosopher.*

ALOE SOCCOTRINA.

This is sometimes called the *aloe officinalis.* It is found most plentifully in an island called *Soccotra*, near the mouth of the Red Sea; and also in Africa on the continent. It is also found in the East Indies; and in the south of Africa, in the vicinity of the Cape of Good Hope. Many trees, plants and shrubs of Africa are met with in Arabia. Various other fruits are found in Arabia; as tamarinds, melons, dates, pomegranates, cocoa-nuts, almonds, figs, filberts, apricots, peaches, &c.—They are grown without very laborious cultivation. For the very valuable and pleasant beverage of coffee, we are also indebted to Arabia, that land of independent and wandering tribes, but where the patriarchal manners and customs, such as existed in the time of Job, Abraham, his sons and grandsons, are still preserved. The aloe is also found in America; but it bears a very splendid flower, and differs in many respects from that of Arabia and Africa.

THE NORTH AND THE SOUTH.

'The following is a sketch of the speech of Mr. Senator Preston, at a public meeting at Columbia, in reference to the Charleston and Cincinnati railroad, in which he took occasion to bear honorable testimony, from personal observation, to the character, the enterprise and public spirit of the north.

'He said that no southern man can journey, (as he had lately done), through the northern states, and witness the prosperity, the industry, the public spirit, which they exhibit, the sedulous cultivation of all those arts by which life is rendered comfortable and respectable, without feelings of deep sadness and shame, as he remembers his own neglected and desolate home. There, no dwelling is to be seen abandoned, no farm uncultivated, no man idle, no waterfall, even, unemployed. Every person and every thing performs a part towards the grand result, and the whole land is covered with fertile fields, with manufactories and canals, and rail roads, and public edifices, and towns and cities. Along the route of the great New York canal, (that glorious monument of the glorious memory of De Witt Clinton), a canal, a rail-road, and a turnpike, are to be seen in the width of perhaps a hundred yards, each of them crowded with travel, or overflowing with commerce. Throughout their course, lands that

before their construction would scarcely command five dollars the acre, now sell for fifty, seventy-five or a hundred. Passing along it, you see no space of three miles without a town or village, and you are never out of the sound of a church bell.

We of the south are mistaken in the character of these people, when we think of them only as pedlers in horn flints and bark nutmegs. Their energy and enterprise are directed to all objects, great and small within their reach. At the fall of a scanty rivulet, they set up their little manufactory of wooden buttons or combs; they plant a barren hill side with broom corn, and make it into brooms at the bottom—and on its top they erect a windmill. Thus, at a single spot you may see the air, the earth and the water, all working for them. But, at the same time, the ocean is whitened to its extremities with the sails of their ships, and the land is covered with their works of art and usefulness.

Massachusetts, is perhaps the most flourishing of the northern states. Yet, of natural productions, she exports but two articles—granite and ice. Absolutely nothing but *rock and ice!* Every thing else of her commerce, from which she derives so much, is artificial—the work of her own hands.

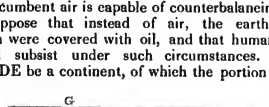
All this is done in a region with a bleak climate and sterile soil, by the energy and intelligence of the people. Each man knows that the public good is his individual advantage. The number of rail-roads, and other modes of expeditious intercommunication, knits the whole country into a closely compacted mass, through which the productions of commerce and of the press, the comforts of life, and the means of knowledge, are universally diffused; while the close intercourse of travel and business makes all men neighbors, and promotes a common interest and common sympathy. In a community thus connected, a single flash of thought pervades the whole land, almost as rapidly as thought itself can fly. The population becomes, as it were, a single set of muscles, animated by one heart, and directed by a common sensorium.

How different the condition of things in the south! Here, the face of the country wears the aspect of premature old age and decay. No improvement is seen going on, nothing is done for posterity, no man thinks of any thing beyond the present moment. Our lands are yearly tasked to their utmost capacity of production, and, when exhausted, are abandoned for the youthful west. Because nature has been prodigal to us, we seem to think it unnecessary to do anything for ourselves. The industry and skill that have converted the inclement and barren hills of New England into a garden, in the genial climate and fertile soil of the south would create almost a paradise. Our natural advantages are among the greatest with which Providence has blessed mankind, but we lack the spirit to enjoy and improve them. The rich ore is beneath our feet, yet we dig not for it. The golden fruit hangs from the bough, and we lift not our hands to gather it. The cask of delicious liquor is before our eyes, but we are too lazy even to broach it. In thinking, in writing and in talking, we are equal to any people on the face of the earth; but we do nothing but think, write and talk.

DETERMINATION OF HEIGHTS.

Our knowledge of the surface of our globe is incomplete, unless it include the heights above the sea level of every part of the land, and the depression of the bed of the ocean below the surface over all its extent. The latter object is attainable (with whatever difficulty and however slowly) by direct sounding; the former by two distinct methods: the one consisting in trigonometrical measurement of the differences of level of all the stations of a survey; the other, by the use of the barometer, the principle of which is, in fact, identical with that of the sounding line. In both cases we measure the distance of the point whose level we would know from the surface of an equilibrated ocean: only in the one case it is an ocean of water, in the other of air. In the one case our sounding line is real and tangible; in the other, an imaginary one, measured by the length of the column of quicksilver the superincumbent air is capable of counterbalancing.

Suppose that instead of air, the earth and ocean were covered with oil, and that human life could subsist under such circumstances. Let ABCDE be a continent, of which the portion ABC



projects above the water, but is covered by the oil, which also floats at an uniform depth on the whole ocean. Then if we would know the depth of any point D below the sea level, we let down a plummet from F. But if we would know the height of B above the same level, we have only to send up a float from B to the surface of the oil; and *having done the same at C, a point at the sea level, the difference of the two float lines gives the height in question.*

Now, though the atmosphere differs from oil in not having a positive *surface* equally definite, and in not being capable of carrying up any float adequate to such a use, yet it possesses all the properties of a fluid really essential to the purpose in view, and this in particular; that, over the whole surface of the globe, its *strata of equal density* are parallel to the surface of equilibrium, or to what *would be* the surface of the sea, if *prolonged under the continents*, and therefore each or any of them has all the characters of a definite surface to measure from, provided it can be ascertained and identified. Now the height at which, at any station B, the mercury in a barometer is supported, informs us *at once* how much of the atmosphere is incumbent on B, or, in other words, *in what stratum* of the general atmosphere (indicated by its density) B is situated: whence we are enabled finally to conclude, by mechanical reasoning, at what height above the sea level *that degree of density* is to be found over the whole surface of the globe. Such is the principle of the application of the barometer to the measurements of heights.

THE AMERICAN PRESS.

We find the following Circular in the New York Observer, on an important subject, worthy the attention of all good citizens.

New York, August 1, 1836.

SIR: A meeting of citizens has recently been held in this city, for the purpose of considering the present condition of the American press; the prospects of our country, as likely to be affected by its influence; and the practicability and expediency of establishing a national institution, on an extended scale, for the diffusion of knowledge, in connection with pure and salutary principles, similar in its structure and design to European societies for the same purpose. A committee was appointed at that meeting to draft a constitution for such a society, and to take measures to secure extensively the union and systematic co-operation of wise and good men in every section of our country, in furtherance of the principles and objects it is designed to promote. As that committee, we take the liberty of addressing you, respectfully inviting your attention to this subject, and your counsel and aid in the great work proposed.

It is universally acknowledged that the press is the most powerful agent now acting on the human mind. That our country is to be a field where its power will be pre-eminently exerted, is equally clear: the extensive circulation of newspapers, magazines and other publications of every description, is creating among our population a general habit of reading hitherto unparalleled in the history of nations; and it inevitably follows, that individual and national character, will in a great measure, be formed by the kind of publications which gain the most general circulation among us; and that consequently the destinies of our country, and its influence on other nations, will very much depend on the direction which may now be given to the press.

The principle, adopted by the committee, is, that the universal diffusion of knowledge, imbued with the spirit of Christianity, is indispensable for bringing any people to the full enjoyment of the best civil and social institutions. And that, in a country, whose institutions depend for their prosperity and stability, not on the arm of power, but solely on the elevating and conservative influence of a pure, enlightened and well regulated public mind, where the *voice of the people is supreme law*, the importance of diffusing information connected with sound and virtuous principles cannot be overrated. Intelligence and Christian principle constitute the palladium of American liberty.

Among the incidental advantages that may be expected to follow from the labors of this society, will be the increased attention it will naturally excite toward the cause of education. Already a deep interest throughout our land, in the subject of universal education, based upon the principles of the Bible, has begun to appear, and the importance of a more liberal and expansive provision for the wants of our rising population is imperatively felt. The mass of uncultivated minds rising up among us, of foreign as well as of native origin, indicates the necessity of some more adequate system for the mental and moral improvement of the community.

It is known that a large proportion of our juvenile population is coming forward with the rapidity of time, to exercise the rights and perform the duties of American citizens, without an adequate culture either of mind or heart. With multitudes of such characters about to exert their influence on the state of society, what can be expected, but that they will fill our cities and villages with crime, and our whole land with the evils and sorrows attending an ignorant, vicious and unprincipled, population.

In some other countries less favored than ours, may be found a far more liberal and generous provision for the instruction of the people, than exists among us, if we take into view the whole extent of our territory and the aggregate of our population; and the committee feel convinced, that the most favored portion of our land is below the standard which is requisite for the permanent prosperity of our republican institutions. To extend, therefore, the means of diffusing widely among our people, USEFUL KNOWLEDGE, the committee cannot but regard as an imperious duty devolving on every good citizen, as a patriot, a philanthropist and Christian.

In view of such considerations, it is proposed to establish a ***national institution*** on the plan developed in the subjoined constitution, to which the committee particularly invite your attention. They also solicit your views of the principles it involves; your opinion of the probable reception, by the community at large of publications to be issued under such sanctions; and of the sympathy and co-operation, both of a literary and pecuniary nature, in your district of country, which such an enterprise may be likely to secure.

A more extended meeting, for the consideration of this subject, the adoption of the constitution, and the organization of the society, will be held at a future day. A reply to this communication, ***at the earliest possible period***, with your observations on the general object, and the best means of promoting it, is particularly requested.

We are, respectfully,

Stephen Van Rensselaer,	John McVickar,
Albert Gallatin,	Gorham D. Abbot,
Benjamin F. Butler,	Peter G. Stuyvesant,
R. Hyde Walworth,	John Knox,
W. B. Crosby,	Samuel Ward,
Hugh Maxwell,	Henry Cary,
S. V. S, Wilder,	William A. Duer,
John A. Stevens,	William Bard,
Gabril P. Disosway,	John Proudfit,
Joseph Holdich,	John T Gilchrist,
J. Goodhue,	A. P. Halsey,
A. W. Ives,	Valentine Mott,
Leonard Woods, jr	John Griscom,
J. E. Gogswell,	W. R. Williams,
W. A. Tomlinson,	Timothy R. Green.

N. B. Answers to be directed to
JOHN MC VICKAR, *Columbia college, New York*, or GORHAM D. ABBOT, 20 *Clinton Place, New York*.

THE TURKISH HOUND, (NAKID.)

There is a great variety of the canine species. They vary with the climate, as do most other animals, but the varieties of the former are very great. Most of these animals are useful; or may be taught to be so. With them, as with the horse, we had almost said as with children, their usefulness and their profitable service depend on early care and discipline. The fidelity, or attachment of a dog is proverbial. And yet they are sometimes found to be troublesome and even dangerous. There is a beautiful little dog called King Charles' dog, from the great fondness Charles II. had for it. He never walked abroad without ten or a dozen of them following him.

Nakid, or the Turkish hound, is different from all other species known. It is a well proportioned little animal; but of a bad spirit. It is ferocious and vindictive; and is kept by the Turks, in many places, for the purpose of guarding their premises and worrying their foes. It would not do very well for a lady's lap-dog.

DR. BENJAMIN CHURCH.

Mr. Editor.—I had a professional call, a few days ago, to visit a family in the northwest part of this city, the widowed lady of which was a sister of *Dr. Benjamin Church*, who was a distinguished character in the memorable period of 1775. The lady is a widow of a very respectable citizen, lately deceased, who was highly and justly esteemed for probity, intelligence and benevolence. She is now somewhat over eighty years of age; and remembers many early events of the Revolution. Benjamin was a few years older; and if now living, would be about ninety-five. The father was a native of Newport, Rhode Island, and a grandson of Col. Benjamin Church, the brave defender of the colony, in the time of Philip's war, 1675, '76,—and afterwards, in Maine, where the Indians frequently made attacks on the scattered inhabitants. Mr. Church, the father of the Dr. and the lady above referred to, removed early to Boston, where his children were educated. He was an eminent merchant; and if I mistake not, a deacon of the first church.

Benjamin received a public education, and took his first degree in Harvard college in the year 1754. The brave and patriotic *Joseph Warren* was a member of college about the same time. This may account, in part, for the intimacy between him and Church, for several years immediately preceding the Revolution. They were also both of them physicians in Boston. Warren was a sincere and most devoted patriot; and ready to die in defence of the liberty of his country. Every one he thought a patriot was sure of his regard and friendship. Dr. Church made as strong professions of attachment to civil liberty as any in the colony. He was young and ardent like Warren; and was one of the select few who often met together to watch the movements of the royal or ministerial party, and to consult for the defence of the Province. Samuel Adams, John Hancock, John Adams, James Otis, and others were of this patriotic band. It is an evidence of the esteem the people had for Dr. Church, and of his patriotism at an early period, or before the war broke out, that he was chosen to deliver the oration before the town, on the fifth of March, 1773, in commemoration of the bloody massacre of 1770. James Lovell delivered the first; Joseph Warren, the second; Church, the third; Hancock, the fourth; and Warren the fifth, in 1775, as no one else was willing to perform the service, so offensive to the British party, who then had several regiments of *gens d'armes* in the town.

The patriotism of Dr. Church appears not to have been doubted, until some time in the Spring of 1775, when his conduct excited the suspicion of Warren, who was the president of the committee of safety, (then the chief executive of the province) and of which Church was at that time member. It was soon after Concord battle, when the Americans and the British troops in Boston had become hostile parties and openly enemies to each other. The committee were sitting in Cambridge, near the college, when Church said, without any connexion with the business of the committee, that he was determined to go into Boston the next day; then in exclusive possession of the British army, and when no sincere and active whig could expect any thing of Governor Gage but death or imprisonment. Warren asked, 'Are you serious? They will certainly hang you, if they catch you.' Church replied: 'I am serious; I am resolved to go, let the consequence be what it may.' He was to pretend to be after medicine for the wounded men. He accordingly went into Boston; and as it afterwards appeared, visited General Gage without restraint.

The Provincial Congress, so called, was succeeded in July, 1775, by a House of Representatives, and an Executive Council chosen by them. Dr. Church was a member of the House; and in the course of the season (October) it was discovered that he held correspondence with an officer of the British army then in Boston. One of his letters was detected, which was written in characters; and though the contents were not immediately interpreted, it was enough to create strong suspicions against him, and have him placed in confinement. As the House of Representatives was not in session, Gen. Washington, then commander-in-chief of the American army in Cambridge and vicinity, ordered him to be confined. During his confinement, the letter was decyphered by Rev. Dr. West of Dartmouth; and it was evident, though he made no direct promise to betray the American army, that he was giving information to the British of the want of military stores in our camp; which was highly improper, if

not absolute treason. And had he not been detected, it is most probable that he would have done serious injury to the American cause, by discovering the deficiency of our powder, cannon, and firearms.

A court of inquiry was held on Church, by order of General Washington, which found him guilty of criminal correspondence with the enemy, but inflicted no punishment on him. When the House of Representatives was in session, he was taken before them; was convicted, on examination by the House, of improper conduct, inconsistent with the character of a patriot and a member of the House; and was thereupon deprived of his seat. He made an eloquent defence; claimed favor for his professed patriotism, and asserted his innocence as to the charge of plotting or intending injury against the Province. He complained of the severe treatment he received, and insisted on the injustice of being tried by a court martial. He was kept some weeks longer in confinement; and was afterwards released by advice of the Continental Congress. He repaired to Newport, whence he sailed in a ship for the West-Indies, and was lost on the passage. This discovery of Dr. Church's correspondence was a very fortunate event, and probably prevented much mischief to the American army. There was a great scarcity of military stores; and had the British General been fully informed of it, he would no doubt have attacked and overcome the men then encamped in the vicinity.

It is a singular circumstance that Dr. Church should have built a house for his summer residence at *Raynham*, Bristol Co. (in 1768) near a large pond, on the margin of which Philip, the sachem of Mount Hope, had often resided; who nearly a century before was slain by those under the command of his ancestor, the famous Col. Benjamin Church. There is no tradition on record, I believe, to furnish the reason which induced Dr. Church there to erect a dwelling-house. According to tradition, Philip himself had a *summer-house* there too, and spent much time at this spot. Some now living there can say, 'our great-grand-parents knew Philip; there stood his house—there also is the garrison-house—the tawny chief there dwelt, a terror to the timid, but a friend to those who were his friends.' A.

FEATS OF STRENGTH.

'A number of feats of real and extraordinary strength were exhibited about a century ago, in London, by Thomas Topham, who was 5 feet 10 inches high, and about 31 years of age. He was entirely ignorant of any of the methods for making his strength appear more surprising, and he often performed by his own natural powers what he learned had been done by others by artificial means. A distressing example of this occurred in his attempt to imitate the feat of the German Samson, by pulling against horses. Ignorant of the method which we have already described, he seated himself on the ground with his feet against two stirrups, and by the weight of his body he succeeded in pulling against a single horse; but in attempting to pull against two horses, he was lifted out of his place and, one of his knees was shattered against the stirrups, so as to deprive him of most of the strength of one of his legs. The following are the feats of real strength which Dr. Desaguliers saw him perform.

1. Having rubbed his fingers with coal-ashes to keep them from slipping, he rolled up a very strong and large pewter plate.

2. Having laid seven or eight short and strong pieces of tobacco-pipe on the first and third fingers, he broke them by the force of his middle finger.

3. He broke the bowl of a strong tobacco-pipe placed between his first and third fingers, by pressing his fingers together sideways.

4. Having thrust such another bowl under his garter, his legs being bent, he broke it to pieces by the tendons of his hams, without altering the bending of his leg.

5. He lifted with his teeth, and held in a horizontal position for a considerable time, a table six feet long, with half a hundred weight hanging at the end of it. The feet of the table rested against his knees.

6. Holding in his right hand an iron kitchen poker three feet long and three inches round, he struck upon his bare left arm, between the elbow and the wrist till he bent the poker nearly to a right angle.

7. Taking a similar poker, and holding the ends of it in his hands, and the middle against the back of his neck, he brought both ends of it together before him, and he then pulled it almost straight again. This last feat was the most difficult, because the muscles which separate the arms horizontally from each other are not so strong as those which bring them together.

8. He broke a rope about two inches in circumference, which was partly wound about a cylinder four inches in diameter, having fastened the other end of it to straps that went over his shoulder.

9. Dr. Desaguliers saw him lift a rolling stone of about 800 pounds' weight with his hands only, standing in a frame above it, and taking hold of a frame fastened to it. Hence Dr. Desaguliers gives the following relative view of the strengths of individuals.

Strength of the weakest men	-	125 pounds
Strength of very strong men	-	400
Strength of Topham - - -		800

The weight of Topham was about 200.

One of the most remarkable and inexplicable experiments relative to the strength of the human frame, which you have yourself seen and admired, is that in which a heavy man is raised with the greatest facility, when he is lifted up the instant that his own lungs and those of the persons who raise him are inflated with air. This experiment was, I believe, first shown in England a few years ago by Major H., who saw it performed in a large party at Venice under the direction of an officer of the American navy. As Major H. performed it more than once in my presence, I shall describe as nearly as possible the method which he prescribed. The heaviest person in the party lies down upon two chairs, his legs being supported by the one and his back by the other. Four persons, one at each leg, and one at each shoulder, then try to raise

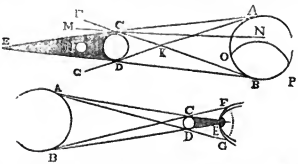
him, and they find his dead weight to be very great, from the difficulty they experience in supporting him. When he is replaced in the chair, each of the four persons takes hold of the body as before, and the person to be lifted gives two signals by clapping his hands. At the first signal he himself and the four lifters begin to draw a long and full breath, and when the inhalation is completed, or the lungs filled, the second signal is given, for raising the person from the chair. To his own surprise and that of his bearers, he rises with the greatest facility, as if he were no heavier than a feather. On several occasions I have observed that when one of the bearers performs his part ill, by making the inhalation out of time, the part of the body which he tries to raise is left, as it were, behind. As you have repeatedly seen this experiment, and have performed the part both of the load and of the bearer, you can testify how remarkable the effects appear to all parties, and how complete is the conviction, either that the load has been lightened, or the bearer strengthened by the prescribed process.

At Venice the experiment was performed in a much more imposing manner. The heaviest man in the party was raised and sustained upon the points of the forefingers of six persons. Major H. declared that the experiment would not succeed if the person lifted were placed upon a board, and the strength of the individuals applied to the board. He conceived it necessary that the bearers should communicate directly with the body to be raised. I have not had an opportunity of making any experiments relative to these curious facts; but whether the general effect is an illusion, or the result of known or of new principles, the subject merits a careful investigation.' —*Brewster's Natural Magic.*

ECLIPSES.

Supposing the position of the nodes of the moon's orbit to permit it, when the moon is new it will intercept a part or the whole of the sun's rays, and cause a solar eclipse. On the other hand, at the full, the earth will intercept the rays of the sun, and *cast a shadow* on the moon, thereby causing a lunar eclipse. And this is perfectly consonant to fact, such eclipses never happening but at the exact time of the full moon. But, what is still more remarkable, as confirming the theory of the earth's sphericity, this shadow, which we plainly see to enter upon, and, as it were, eat away the disc of the moon, is always terminated by a circular outline; though, from the greater *size* of the circle, it is only partially seen at any one time. Now, a body which always casts a circular shadow must itself be spherical.

Eclipses of the sun are best understood by regarding the sun and moon as two independent luminaries, each moving according to known laws, and viewed from the earth; but it is also instructive to consider eclipses generally as arising from the shadow of one body thrown on another by a luminary *much larger than either*. Suppose, then, AB to represent the sun, and CD a spherical body, whether earth or moon, illuminated by it. If we join and prolong AC, BD (since AB is greater than CD), these lines will meet in a point E, more or less distant from the body CD, according to its size, and within the space CED (which represents a cone, since CD and AB are spheres), there will be a



total shadow. This shadow is called the *umbra*, and a spectator situated within it can see no part of the sun's disc. Beyond the umbra are two diverging spaces (or rather, a portion of a single conical space, having K for its vertex), where if a spectator be situated, as at M, he will see a portion only (AONP) of the sun's surface, the rest (BONP) being obscured by the earth. He will, therefore, receive only partial sunshine; and the more, the nearer he is to the exterior borders of that cone which is called the *penumbra*. Beyond this he will see the whole sun, and be in full illumination. All these circumstances may be perfectly well shown by holding a small globe up in the sun, and receiving its shadow at different distances on a sheet of paper.

In a lunar eclipse (represented in the upper figure), the moon is seen to enter the penumbra first, and by degrees, get involved in the umbra, the former surrounding the latter like a haze. Owing to the great size of the earth, the cone of its *umbra* always projects far beyond the moon; so that, if, at the time of the eclipse, the moon's path be properly directed, it is sure to pass through the *umbra*. This is not, however, the case in solar eclipses. It so happens, from the adjustment of the size and distance of the moon, that the extremity of her *umbra* always falls *near* the earth, but sometimes attains and sometimes falls short of its surface. In the former case (represented in the lower figure), a black spot, surrounded by a fainter shadow, is formed, beyond which there is no eclipse on any part of the earth, but within which there may be either a total or partial one, as the spectator is within the *umbra* or *penumbra*. When the apex of the umbra falls on the surface, the moon at that point will appear, for an instant, to *just* cover the sun; but when it falls short, there will be no total eclipse on any part of the earth; but a spectator, situated in or near the prolongation of the axis of the cone, will see the whole of the moon on the sun, although not large enough to cover it, *i. e.* he will witness an annular eclipse.

Owing to a remarkable adjustment of the periods in which the moon's revolution, and that of her nodes, are performed, eclipses return after a certain period, very nearly in the same order and of the same magnitude. For 223 of the moon's mean revolutions, or *lunations*, (as they are called), will be found to occupy 6585·32 days, and nineteen complete revolutions of the node to occupy 6585·78. The difference in the mean position of the node, then, at the beginning and end of 223 lunations, is nearly insensible; so that a recurrence of all eclipses

within that interval must take place. Accordingly this period of 223 lunations, or eighteen years and ten days, is a very important one in the calculation of eclipses. It is supposed to have been known to the Chaldeans, under the name of saros; the regular return of eclipses having been known as a physical fact for ages before their exact theory was understood.

The commencement, duration, and magnitude of a lunar eclipse are much more easily calculated than those of a solar, being independent of the position of the spectator on the earth's surface, and the same as if viewed from its centre. The common centre of the *umbra* and *penumbra* lies always in the ecliptic, at a point opposite to the sun, and the path described by the moon in passing through it is its true orbit, as it stands at the moment of the full moon. In this orbit, its position, at every instant, is known from lunar tables; and all we have to ascertain is, the *moment when* the distance between the moon's centre and the centre of the shadow is exactly equal to the sum of the semidiameters of the moon and *penumbra*, or of the moon and *umbra*, to know when it enters upon and leaves them respectively.—*Herschel.*

PILGRIMAGE TO MECCA.

At *Cairo* I had viewed the departure of the caravan from the Hadi, as a species of public rejoicing. The whole of the night, which preceded the raising of the tents, the camp, resplendent with the light of *millions* of lamps, and re-echoing with the sounds of thousands of musical instruments, seemed the special abode of mirth and pleasure; and the ensuing morning, the pilgrims, fresh and gay, full of ardor, and prancing along the road, looked like a procession of the *elect* going to take possession of Paradise.

Alas, how different was the appearance of this same caravan, after a long and fatiguing march across the desert, on its arrival at *Mecca!* Wan, pale, and worn down with fatigue and thirst, incrusted with a thick coat of dust and perspiration, they who composed it seemed scarcely able to crawl to the place of their destination. The end of their journey looked like that of their earthly existence: or rather one might have fancied their bodies already smitten by the spirit of the desert, and their ghosts come disembodied to accomplish their vow. Among the arrivals were some of my Egyptian friends; but their sufferings had so altered them, that they were obliged to syllable their names, before I could recollect them. One had almost lost his sight by the sand and dust; another preserved but a remnant of intellect, and a third in consequence of great fatigue and constant alarms and fears, had become subject to spasmodic movements, and he held his head fast by the ears to prevent its turning round like a top. And all this evil and suffering was endured from a mistaken idea of religious duty!

The nightingale's sagacity. 'A part of my garden,' says the narrator, in a Paris paper, 'was carried away by an inundation, which arose suddenly, and was overflowing a hedge in the lower part of it. Here was a nightingale's nest; and as I was watching to see the water reach the level of the nest, (from curiosity) I took notice of the nest often, in which were four eggs. Next day after I observed only two, and the water had then risen to within an inch of the nest. I supposed the two eggs missing had been submerged; but in a short time, I looked and there was but one. Soon again, on seeing the birds visit the nest and fly away again, I looked into the nest, and the last egg had disappeared. The birds directed their course to the highest part of the garden; and on visiting the place where they had alighted, I found four eggs in a new nest, about fifty yards from the first. Afterwards another egg was laid; and they all succeeded very well.'

THE CHALLENGE.—A scholar gave another the lie, and a challenge ensued. The teacher of mathematics heard of the dispute and sent for the young man, who insisted that he must accept the challenge and fight. 'Why?' asked the tutor. 'Because he gave me the lie.' 'Well,' said the tutor, 'let him prove it. If he proves it, you did lie, and if he does not prove it, he lies. Why should you shoot one another? Let him prove it.'

HOME—*By the Author of Emmanuel.*

Though fair to our eye be our home upon earth,
The house of our parents, the scene of our birth;
The sacred enclosure where care was unknown,
And all the green buds of enjoyment our own;
Still let us remember, though cherished and dear,
The home of eternity cannot be here.
Though health may continue and wealth may increase,
And the sunshine of hope gild our dwelling of peace;
Though friendship may gladden, and pleasure attend,
Let us never forget, it must all have an end.
Could we gain the whole world, it would yet be unwise,
Did we forfeit our prospect, a home in the skies.

LOOK ALOFT.

By the late Jonathan Lawrence, Junior.

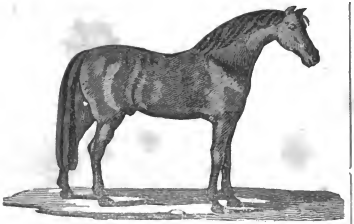
In the tempest of life, when the wave and the gale
Are around and above, if thy footing should fail—
If thine eye should grow dim and thy caution depart—
"Look aloft" and be firm, and be fearless of heart.
If the friend, who embraced in prosperity's glow
With a smile for each joy and a tear for each woe

Should betray thee when sorrow like clouds are arrayed
"Look aloft" to the friendship which never shall fade.
Should the visions which hope spreads in light to thine eye,
Like the tints of the rain-bow, but brighten to fly,
Then turn, and through tears of repentant regret
"Look aloft" to the sun that is never to set.

Should they who are dearest, the son of thy heart—
The wife of thy bosom—in sorrow depart,
"Look aloft" from the darkness and dust of the tomb,
To that soil where "affection is ever in bloom."

And oh! when death comes, in terror to cast
His fears on the future, his pall on the past,
In that moment of darkness, with hope in thy heart,
And a smile in thine eye, "look aloft" and depart!

Silk.—The Atlantic Silk Company at Nantucket, has lately exhibited in New York, a dozen elegant silk handkerchiefs. They bear a great resemblance to the *Pongee* handkerchiefs, and even of a superior fabric, and of equal firmness. It is also said, that they can be afforded cheaper than the imported article of the same kind.



ARABIAN HORSE.

The horse is called a *noble* animal; he is also a favorite of princes, and sometimes most highly valued by them in their need. A great monarch, when in danger, is said to have exclaimed, 'My kingdom for a horse.' The Arabian breed of horses is well known to be the finest in the world. It has been often asserted, that they were found wild in the deserts; but this is now doubted. Great Tartary is supposed to be the original country of this very useful animal. But in no part of the world is he more valued or employed than in Arabia. The wandering Arab of the desert places his highest pleasure in his horses; and they are rather his companions than his servants. This class of Arabians are most attentive to the breed of good horses. The genealogy of some of them is traced to the time of Solomon, and to some he had in his princely stalls. A horse of this breed commands a very great price; and they carry their master sixty miles a day. They are of good temper, and vigorous, and bear fatigue in a remarkable manner.

THE STARS NUMBERLESS.

There are only five, or at most six, of the planetary orbs visible to the naked eye. What then, is that multitude of other lights which sparkle in our firmament, and fill the whole concave of heaven with innumerable splendors? The planets are all attached to the sun; and, in circling around him, they do homage to that influence which binds them to perpetual attendance on this great luminary. But the other stars do not own his dominion. They do not circle around him. To all common observation, they remain immoveable; and each, like the independent sovereign of his own territory, appears to occupy the same inflexible position in the regions of immensity. What can we make of them? Shall we take our adventurous flight to explore these dark and untravelled dominions? What mean these innumerable fires lighted up in distant parts of the universe? Are they only made to shed a feeble glimmering over this little spot in the kingdom of nature? or do they serve a purpose worthier of themselves, to light up other worlds, and give animation to other systems.

The first thing which strikes a scientific observer of the fixed stars, is their immeasurable distance. If the whole planetary system were lighted up into a globe of fire, it would exceed, by many millions of times, the magnitude of this world, and yet only appear a small lucid point from the nearest of them. If a body were projected from the sun with the velocity of a cannon ball, it would take hundreds of thousands of years before it described that mighty interval which separates the nearest of the fixed stars from our sun and from our system. If this earth, which moves at more than the inconceivable velocity of a million and a half miles a day, were to be hurried from its orbit, and to take the same rapid flight over this immense tract, it would not have arrived at the termination of its journey, after taking all the time which has elapsed since the creation of the world. These are great numbers, and great calculations, and the mind feels its own impotency in attempting to grasp them. We can state them in words. We can exhibit them in figures. We can demonstrate them by the powers of a most rigid and infallible geometry. But no human fancy can summon up a lively or an adequate conception—can roam in its ideal flight over this immeasurable largeness—can take in this mighty space in all its grandeur, and in all its immensity—can sweep the outer boundaries of such a creation—or lift itself up to the majesty of that great and invisible arm on which all is suspended.

But what can those stars be which are seated so far beyond the limits of our planetary system? They must be masses of immense magnitude, or they could not be seen at the distance of place which they occupy. The light which they give must proceed from themselves, for the feeble reflection of light from some other quarter, would not carry through such mighty tracts to the eye of an observer. A body may be visible in two ways. It may be visible from its own light, as the flame of a candle, or the brightness of a fire, or the brilliancy of yonder glorious sun, which lightens all below, and is the lamp of the world. Or it may be visible from the light which falls upon it, as the body which receives its light from the taper that falls upon it—or the whole assemblage of objects on the surface of the earth, which appear only when the light of day rests upon them, or the moon, which, in that part of it which is towards the sun, gives out a silvery whiteness to the eye of the observer, while the other part forms a black and invisible space in the firmament—or as the planets, which shine only because the sun shines upon them, and which, each of them, present the appearance of a dark spot on the side that is turned away from it. Now apply this question to the fixed stars. Are they luminous of themselves, or do they derive their light from the sun, like the bodies of our planetary system? Think of their immense distance, and the solution of this question becomes evident. The sun, like any other body, must dwindle into a less apparent magnitude as you retire from it. At the prodigious distance even of the very nearest of the fixed stars, it must have shrunk into a small indivisible point. In short it must have become a star itself, and could shed no more light than a single individual of those glimmering myriads, the whole assemblage of which cannot dissipate, and can scarcely alleviate the midnight darkness of our world. These stars are visible to us, not because

the sun shines upon them, but because they shine of themselves, because they are so many luminous bodies, scattered over the tracts of immensity—in a word, because they are so many suns, each throned in the centre of his own dominions, and pouring a flood of light over his own portion of these unlimitable regions.

At such an immense distance for observation, it is not to be supposed, that we can collect many points of resemblance between the fixed stars, and the solar star which forms the centre of our planetary system. There is one point of resemblance, however, which has not escaped the penetration of our astronomers. We know that our sun turns round upon himself, in a regular period of time. We also know that there are dark spots scattered over his surface, which, though invisible to the naked eye, are perfectly noticeable by our instruments. If these spots existed in greater quantity upon one side than upon another, it would have the general effect of making that side darker, and the revolution of the sun must, in such a case, give us a brighter and a fainter side, by regular alternations. Now, there are some of the fixed stars which present this appearance. They present us with periodical variations of light. From the splendor of a star of the first or second magnitude, they fade away into some of the inferior magnitudes—and one, by becoming invisible might give reason to apprehend that we had lost him altogether—but we can still recognise him by the telescope, till at length he re-appears in his own place, and, after a regular lapse of so many days and hours, recovers his original brightness. The fair inference from this is, that the fixed stars, as they resemble our sun in being so many luminous masses of immense magnitude, they resemble him in this also, that each of them turns round upon his own axis; so that if any of them should have an inequality in the brightness of their sides, this revolution is rendered evident, by the regular variations in the degree of light which it undergoes.

Shall we say, then, of these vast luminaries, that they were created in vain? Were they called into existence for no other purpose than to throw a tide of useless splendor over the solitudes of immensity? Our sun is only one of these luminaries, and we know that he has worlds in his train. Why should we strip the rest of this princely attendance? Why may not each of them be the centre of his own system, and give light to his own worlds? It is true that we see them not, but could the eye of man take its flight into those distant regions it would lose sight of our little world, before it reached the outer limits of our system—the greater planets would disappear in their turn—before it had described a small portion of that abyss which separates us from the fixed stars, the sun would decline into a little spot, and all its splendid retinue of worlds be lost in the obscurity of distance—he would at last shrink into a small indivisible atom, and all that could be seen of this magnificent system, would be reduced to the glimmering of a little star. Why resist any longer the grand and interesting conclusion? Each of these stars may be the token of a system as vast and as splendid as the one which we inhabit. Worlds roll in these distant regions; and these worlds must be the mansions of life and intelligence. In yon gilded canopy of heaven we see the broad aspect of the universe, where each shining point presents us with a sun, and each sun with a system of worlds—where the Divinity reigns in all the grandeur of his attributes—where he peoples immensity with his wonders; and travels in the greatness of his strength through the dominions of one vast and unlimited monarchy.

The contemplation has no limits. If we ask the number of suns and of systems, the unassisted eye of man can take in a thousand, and the best telescope which the genius of man has constructed can take in eighty millions. But why subject the dominions of the universe to the eye of man or to the powers of his genius? Fancy may take its flight far beyond the ken of eye or telescope. It may expatiate in regions far beyond all that is visible—and shall we have the boldness to say, that there is nothing there? That the wonders of the Almighty are at an end, because we can no longer trace his footsteps? That his omnipotence is exhausted, because human art can no longer follow him? that the creative energy of God has sunk into repose, because the imagination is enfeebled by the magnitude of its efforts, and can keep no longer on the wing through those mighty tracts, which shoot far beyond what eye hath seen, or the heart of man hath conceived—which sweep endlessly along, and merge into an awful and mysterious infinity?—*Chalmer.*

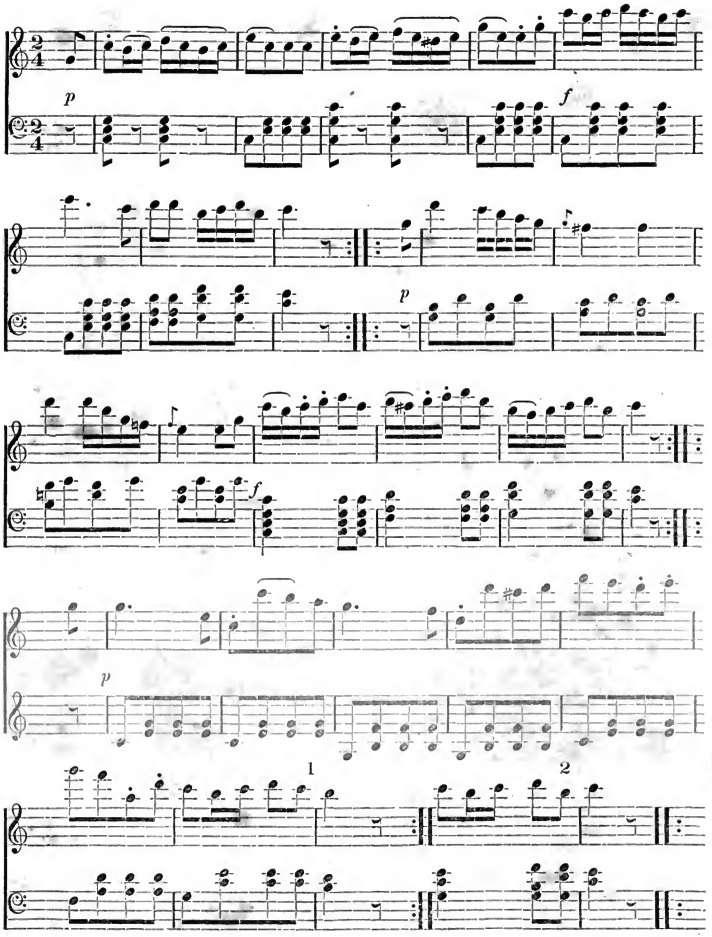
EMINENT MEN WHO HAVE DIED DURING 1836.

In England. Earl of Fingall, aged 77. Viscount Middleton, 81. Nathan M. Rothschild. Bishop of Usula, 73. *In France.* Abbe Sieyes, 88. Charles Augustus Bottiger, of Dresden, Saxony, 75. William Taylor, near London, called the Platonist, 77. John Sinclair of Edinburg, L.L.D. F.R.S, 82. James Hogg, 'Ettrick Shepherd,' on the banks of the Yarrow, Scotland, aged 63. Hon. William Scott, Baron Stowell, D.C.L. F.R.S. 91. John Gillies, near London, L.L.D. F.R.S. 90. Marie Letitia Bonaparte, mother of Napoleon, at Rome, 85. Rev. Richard Valpy, near London, D. D. 82. William Godwin, Westminster, England, 81. Lefebure Cheverus, archbishop of Bourdeaux, 69.

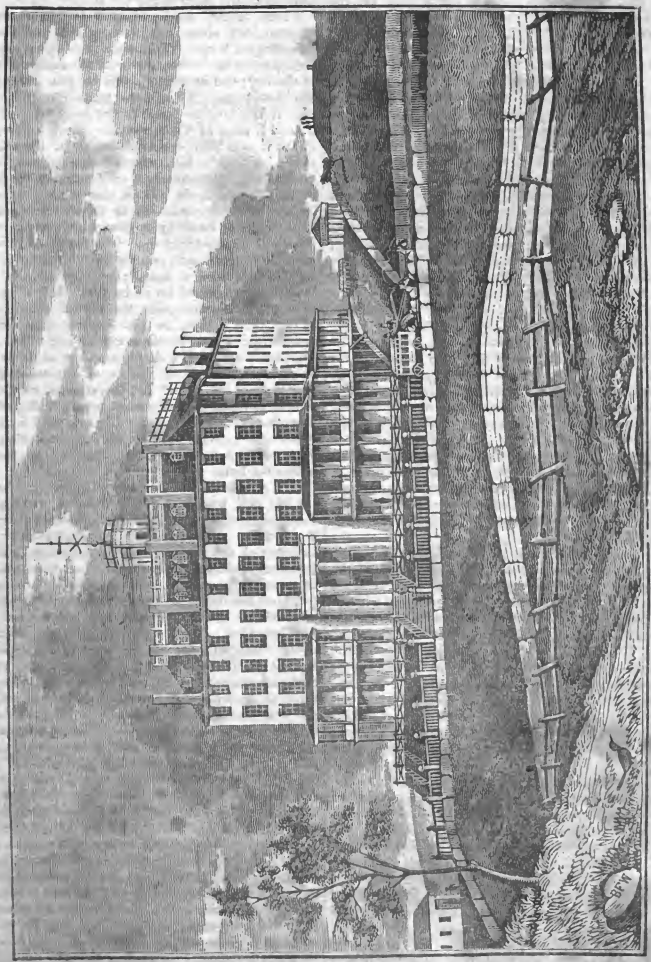
In America James Madison, late President of the United States, 84. Bishop White of Philadelphia, 88. Rev. Asa Messer, late President of Brown university, 67. Hon. James Pleasants, formerly Governor of Virginia, 77. Hon Nathan Smith of New Haven, United States' senator from Connecticut, 67. Hon. Edward Livingston, of New York, L.L. D. 73. Rev. John Prince of Salem, L.L. D. 84. Benjamin Vaughan, Esq. of Hallowell, L.L. D. 83. Rev. Benjamin B. Wisner of Boston, D. D. 40. Hon. Moses Brown of Providence, 90. David Hosack, New York, M. D. F. R. S. 67. Cornplanter, Indian Chief of Seneca tribe, 100 C. P. Bennet, Governor of Delaware, 77. William Bristol of New Haven, Judge of District court of United States, 57. General William North, of New York, but a native of Massachusetts, a veteran of the Revolution, 82.

QUADRILLE.

ARRANGED FOR THE AMERICAN MAGAZINE, BY CH: ZEUNER.



JANUARY.



[View of the Mount Washington House at South Boston.]

MOUNT WASHINGTON HOUSE AT SOUTH BOSTON.

This new and elegant mansion is deserving of notice on many accounts. Its location connects it, in the first place, with reminiscences of the commencement of the struggle which resulted in the independence of the United States. The high ground represented in our picture, on the right, is the remains of one of the fortifications thrown up by order of General Washington, in 1776, on what was then called Dorchester heights. The whole peninsula, of which South Boston occupies the principal part, was formerly a part of Dorchester. At the time of the commencement of the siege of Boston, in 1775, it being then in the occupation of the British troops under General Gage, the American force was not considered sufficient to make it advisable to occupy these heights. The only advantage to be gained by such an occupation was an opportunity to annoy the enemy, either in the town, or in passing through the harbor in the channel connecting it with the ocean. This could not be done without too much weakening the posts on the avenues between the city and the country. But in March, 1776, the army under Gen. Washington having been reorganized, and reinforced by militia for the purpose, a plan was concerted by Gen. Washington, and the officers under his command, by which it was confidently hoped that the enemy might either be dislodged, or disabled and taken. The first movement in this plan was the occupation of these heights. It had been in contemplation for a considerable time previous, but as there was no easy passage from the main land to the high grounds on the peninsula, except over the low grounds at the neck connecting them with Dorchester, it had been delayed on account of the mildness of the weather.

On the night of the 4th of March, Gen. Thomas, who had commanded the southern division of the army at the commencement of the siege, crossed over and took possession of the heights without opposition, and commenced fortifications. In the morning, when these operations were discovered, Gen. Howe, who had succeeded Gen. Gage in the command of the British forces in Boston, made preparations for attacking the force on the heights. In expectation that the best of the British troops would be employed in this service, Gen. Washington was prepared to attack the town; but a violent storm dispersed the British shipping and prevented the attack; in consequence of which Gen. Thomas proceeded unmolested with the work of fortification till it was thought he was too strongly entrenched to be dislodged. The British General therefore made good use of the admonition which the British forces had received at the battle of Bunker Hill, and determined to evacuate the town; that was almost immediately executed. In commemoration of these events, the hill on which the strongest works were raised, has received the name of Mount Washington.

The Mount Washington house is sufficiently elevated to command a view of the harbor of Boston and its numerous islands, and also of the city, with its capitol towering above every other edifice; and likewise of the adjacent country with its mansions, steeples and villages, reflecting back the morning sun, and showing in all directions the most abundant proofs of the general prosperity which has attended them since the departure of the British forces.

Castle island, on which fort Independence is situated, lies about one mile east of the Mount Washington house. This island, having a complete command of the harbor, is one of the main defences of the city, and its works serve to give variety to the landscape. Two miles northerly from the Mount Washington house is the navy yard of the United States, at Charlestown. Every other part of the view is filled with monuments of the arts of peace. Nook's hill, where fortifications were erected after the evacuation of Boston, on the point of land nearest to the city on the same peninsula, is almost entirely removed, to afford a more level foundation for dwelling houses, with which South Boston is rapidly filling up. The harbor of Boston, with its green islands, and its quiet waters, reflecting the light from a thousand varied objects, has long been celebrated for its beauty. Let a person view the landscape from the top of the Mount Washington house, in the summer time, when nature wears her loveliest aspect, and when, as sometimes happens, a large number of ships are entering or leaving the harbor at the same time, and if he is not moved to admiration, it would be useless to endeavor to awaken him by transporting him to any other scene. Travellers, who have visited every part of Europe, have declared that the view from this spot is not surpassed by any other within the limits of their travels.

The grounds about the Mount Washington house are laid out with taste and neatness, evincing a determination to make every thing connected with the exterior of the building conformable to the elegance of the interior. Time, however, will be required to develope all the beauties that may be expected.

The house contains about two hundred rooms, and affords accommodations for a hundred and fifty boarders. Gentlemen from the south, or from other places, who may desire to spend a portion of time at Boston, with their families, will find every desirable accommodation at this house. The distance to the post-office is a mile and a half. Omnibuses, passing and repassing every half hour, between the house and the city, afford opportunities for a passage whenever it may be required. Nowhere can the pure air, the exhilarating and delightful prospects, and the rural quiet of a country life, combined with all the advantages of a residence in the city, be more perfectly enjoyed than here. If it is desired to visit any of the villages, which appear so pleasing in the distance, the stables will afford horses for a morning's ride on horseback, or a carriage will allow a number to enjoy the ride and each other's conversation at the same time. If the islands, or the waters of the harbor, or those of the ocean, appear more inviting, sail boats and steam boats are at hand. The city, the village, the farm house, and the restless waves of the ocean, are all ready to contribute whatever may be required for recreation, or for improvement either of the body or the mind.

We are pleased to learn, that during the last season, which is the first since the house was opened, it has been well patronised. One third part of the elegant accommodations which the house is capable of affording are already engaged for the next season, principally by gentlemen from the south. Under the shelter of the old fort, and of the walls of the edifice, and partaking of the good cheer of the house, the east wind, the greatest of all common troubles at Boston, may be forgotten, even by an invalid.

MUSCULAR STRENGTH.

Borellus was the first who demonstrated that the force exerted within the body greatly exceeds the weight to be moved without, and that nature employs an immense (we had almost said superfluous) power to move a small weight. It has been calculated that the deltoid muscle alone, when employed in supporting a weight of fifty pounds, exerts a force equal to 2,568 pounds. Some notion of the force exerted by the human body in progressive motion may be formed from the violence of the shock received when the foot unexpectedly impinges against any obstacle in running. The strongest bones are occasionally fractured by the action of the muscles. The muscular power of the human body is indeed wonderful. A Turkish porter will run along carrying a weight of 600 pounds; and Milo, of Crotonia, is said to have lifted an ox, weighing upwards of 1,000 pounds. Haller mentions, that he saw an instance of a man, whose fingers being caught in a chain at the bottom of a mine, by keeping it forcibly bent, supported by that means the weight of his whole body, 150 pounds, till he was drawn up to the surface, a distance of six hundred feet. Augustus II. king of Poland, could, with his fingers, roll up a silver dish, like a sheet of paper, and twist the strongest horseshoe asunder; and a lion is said (*Phil. Trans. N.* 310) to have left the impression of his teeth upon a piece of solid iron. The most prodigious power of the muscles is exhibited by the fish. A whale moves with a velocity through the dense medium of water that would carry him, if he continued at the same rate, round the world in little more than a fortnight; and a sword-fish has been known to strike his weapon quite through the oak plank of a ship.

CAVE IN TEMPLETON.

There is a hill in Templeton, (Worcester county) which has always gone by the popular name of Mine hill. It was supposed to have derived this name not from minerals having been actually discovered in it, but from the fact that no compass could be used in its vicinity, the needle becoming useless in every direction within a quarter of a mile of it. About nine years since some person who was a believer in the efficacy of 'mineral rods,' undertook to examine the hill with them, and on one side of it, under the root of a hemlock tree, which had grown to the thickness of two feet, dug down and discovered the entrance of a cave, or rather an artificial draft or gallery, which at some remote period had been cut horizontally through a rock to the distance of a hundred and sixty feet. It was in some places eight or nine feet high, and from four to eight or nine feet wide. Steel drills, corroded apparently with the rust of centuries, were found on the floor of the vault, and its sides bore indentation which evidently had been made by these instruments. The oldest inhabitants had no recollection of this excavation; the precaution taken for its concealment goes to show, indeed, that its makers took all this trouble in the pursuit of mineral treasures, and were anxious that neither their neighbors nor posterity should know either of their attempt or their disappointment. One of the most deep seated delusions of early settlers was their belief that the country contained abundance of the precious metals; and their want of science led them into a great deal of profitless expenditure in this search. As long ago as the year 1780, if we mistake not, a wise man of Petersham, named Stone, was employed by some inhabitants of Northfield, to discover some treasures supposed to have been hidden by a pirate beneath a singularly lettered stone.

But to return to Mine hill. A few years ago a new road was made from Worcester to Templeton, passing on the other side of the hill; and on this side, in making the road, a fine copperas mine was found, which is now worked, it is said, to advantage. Thus realizing in some measure, though in a different way, the expectations formed by the first delvers of the hill.

GOETHE'S PROLOGUE IN HEAVEN.

Translation by Shelly.

RAPHAEL.

The sun makes music as of old,
Amid the rival spheres of heaven,
On its predestined circle roll'd
With thunder speed; the angels even
Draw strength from gazing on thy glance,
Though none its meaning fathom may,
The world's unwithered countenance
Is bright as at creation's day.

GABRIEL.

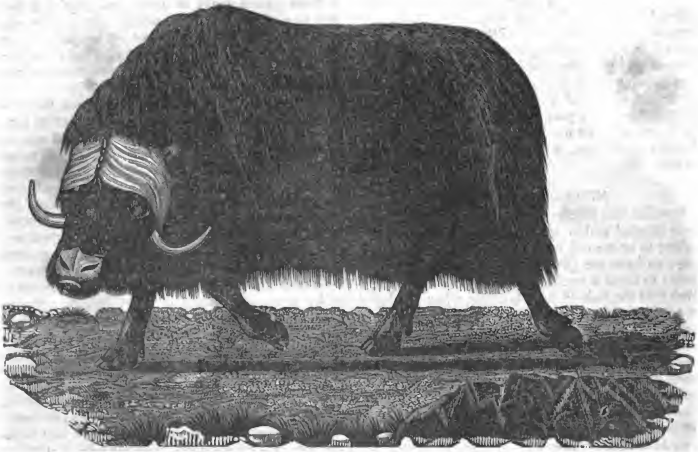
And swift, and swift with rapid lightness,
The adorned earth spins silently,
Alternating Elysian brightness
With deep and dreadful night; the sea
Foams in broad billows from the deep
Up to the rocks; and rocks and ocean
Onward, with spheres which never sleep,
Are hurried in eternal motion.

MICHAEL.

—And tempests in contention roar
From land to sea, from sea to land;
And raging, weave a chain of power,
Which girds the earth as with a band.
A flashing desolation there
Flames before the thunder's way;
But thy servants, Lord! revere
The gentle changes of thy day.

CHORUS OF THE THREE.

The angels draw strength from thy glance,
Though no one comprehend thee may;
The world's unwithered countenance
Is bright as on creation's day.



THE MUSK OX.

On the 71st page of our second volume we have given a representation of the figure of this animal according to some of the earlier naturalists. Above, we give a very accurate representation of the same animal as found at Melville island by Captain Parry, in 1820. According to his observations it arrives in the North Georgian islands about the middle of May, crossing the ice from the southward, and quits that part of the country about the end of September.

In the summer months, according to the statement of the Esquimaux, it inhabits the country on the west of Davis' straits and on the north of Baffin's bay. The head and horns and a drawing of a bull were shown to the Esquimaux of the west coast of Davis' strait, and were immediately recognized by them as the same animal which they call *umingmack*.

These animals are more difficult to be approached than the reindeer, and are also less numerous. It is therefore not very easy to kill them. Three of the males were however killed by the crews of Captain Parry's expedition. They afforded 359, 362, and 421 lbs. of beef. The meat of the females, when not full fed, and that of the males at all times, has a strong taste and odor of musk. Notwithstanding this circumstance it was well relished by his men, but some pieces which were carried to England, were thought to have acquired a much more disagreeable flavor than they had at first, though they had been kept perfectly free from any taint of putrefaction. The animals that were killed were 10 1-2 hands high at the withers, and weighed more than 700 lbs. They run with a hobbling kind of canter, which makes them appear as if they might fall; but the heaviest and slowest of them will far outstrip a man. They feed on grass and lichens or moss. They are social animals, feeding in herds. In one of the herds seen by the people of Captain Parry's expedition there were two calves which had a much larger proportion of white than the older animals, the latter having merely a white saddle. The orbits of the eyes have a very remarkable projection, much greater than in other animals of the same genus. This serves to carry the eye clear of the great quantity of hair, which is rendered necessary by the severity of the cold in such high latitudes.

That an animal of this kind should be fitted to find subsistence and even enabled to thrive, in regions so inhospitable and cold, may well excite our wonder. Whether a more enterprising people than the Esquimaux might subject them to the dominion of man, and make them answer the purposes for which domestic cattle are employed in more temperate climates, we have no means of judging.

The head of an animal of this species is described by O. Fabricius in his *Fauna Grœnlandica*, which is said have been drifted thither on the ice. None of the Greenlanders appear to have ever seen the animal itself, but from some traditionary knowledge of it, they applied to it a name similar to that applied by the Esquimaux, calling it *umimak*. This circumstance indicates that they or their ancestors at some time had had communication with each other. It is likewise a general belief amongst them that their ancestors came from a country north and west of the one they now inhabit. Some authors without hesitation have called them by the general name of Esquimaux.

JOHN MARSHALL, L L. D.
Late Chief Justice of the Supreme Court of the United States.

It is but a short time since our country was called to deplore the loss of this great man. Judge Marshall was distinguished for taste, talents, learning and judgment; also for his ardent and disinterested patriotism; and being the admirer and the friend of Washington, like him, he was noted for his moral worth and excellence. He seems to have been guided through his whole life by the stern and inflexible principles of justice, combined with the milder and more attractive influence of a benevolent regard for the happiness of all around him. These traits of character made him a decided patriot, an honest statesman, an impartial and incorruptible judge, a kind and faithful husband and parent, an excellent citizen, and an honor to his native State, his country and the world.

The ancient State of Virginia has produced a galaxy of distinguished men. After Washington, she claims Patrick Henry, Thomas Jefferson, Arthur Lee, James Madison, Richard Henry Lee, and James Munroe; but of all her sons, if we omit her Washington, none has added more to her honor, and to the honor of the nation, than her Marshall.

His father was a man of moderate fortune and of retired habits, but uncommonly estimable in the character of his mind and feelings. He was a patriot, and in the war of the Revolution he was early appointed to the command of a regiment of infantry, in which capacity he continued to serve, bearing his full share of hardship, until the establishment of peace. He had a numerous family, of whom, John, the subject of the present memoir was the oldest. He was born on the 24th day of September, 1755, in the county of Farquier. This was then a frontier county in the State, and the means of giving an education to a young and numerous family were scanty and inadequate. His father was thus compelled to superintend the education of his family, and to become almost their only instructer. The strength of mind and the thirst for knowledge which afterwards gave a character to the son, was early developed. History and poetry, such poetry as that of Milton, Shakspeare, Dryden and Pope, having been the favorite studies of the father, became familiar to the son. Till the very close of his life Mr. Marshall continued to cultivate a taste for those departments of literature which had instructed and delighted him in his youth.

His love of literature would appear, in the view of many persons inconsistent with the severe logic and the closeness of thought which characterize his judicial decisions. But to a mind which, like that of Marshall, becomes the master of every subject which appears worth its attention, there is no incompatibility between the delightful effusions of the poet who carries us, as it were, on the wings of the morning to the uttermost parts of the earth, and graver studies which require the exercise of deep and close attention to elicit truth from masses of conflicting arguments and confused statements of facts.

There being no grammar school in the vicinity, Mr. Marshall, at the age of fourteen, was sent to a clergyman about 100 miles distant from his father's for the purpose of obtaining a knowledge of the ancient classics. After continuing with him a year, he returned to his father's house and was placed under the care of a Scotch clergyman, who had been recently inducted as pastor of the parish, and resided in his father's family. He remained under his care about a year, when his instructer leaving the family, he was left to complete his mastery of the classics by the help of his grammar and dictionary. It was accomplished without other assistance. After this time, he pursued his studies according to his judgment, under the advice of his worthy parent. His time was chiefly employed in the study of the English writers of the beginning of the last century; and they were indeed worthy of his preference. By them his taste was formed, and a direction given to his mind, which produced the most happy results—improving his taste, imparting solid information and exciting to moral and literary excellence. When the war with England began, Mr. Marshall was about twenty years old. He soon engaged in an independent company of volunteers; and devoted much time to the questions of government, then discussed by all classes of people, with reference to the political dispute with the parent country. For the sake of preparing for the defence of his country his books were laid aside for military service, and in 1775 he received a commission as lieutenant in a company of minute men, as they were then called; and in the course of the season, they had a skirmish with some regulars under Lord Dunmore, the governor of Virginia, in which young Marshall was highly distinguished for his activity and bravery. In May, 1777, at the age of twenty-one, he was appointed a captain, and marched with others to the middle States, then the principal scene of warfare. He continued in service till the close of 1779, during which he was engaged in several battles with the British, particularly those of Brandywine, Germantown, and Monmouth. During a part of this period he acted as deputy judge-advocate; a proof of his judgment and discretion, and his conduct in that station met with general approbation.

At the time above mentioned there were found

to be supernumerary officers in the Virginia line, and Captain Marshall with several others were directed to return to their native State, and to take charge of such men as the legislature might raise. He seized this occasion, when his services seemed not to be required in the army, to attend the law lectures of Chancellor Wythe; and lectures on Natural Philosophy, by Bishop Madison. In 1780, he received a license to practise law; but he soon after returned to the army, and remained in actual service for a year longer. But the Virginia line still having a redundancy of officers, he resigned his commission, and devoted himself again to the study of his profession. As soon as the courts of law were restored and regularly opened, he engaged in the practice with a diligence, for which he was always distinguished, and in a few years became eminent in the profession.

But a man of his talents and public spirit was not long permitted to remain in private life. In 1782, at the age of twenty-six, Mr. Marshall was chosen a member of the general assembly of his native State; and soon after, a member of the executive council. He was again returned to the legislature in 1784 and in 1787; and he was a member of the convention in Virginia, in 1788, for considering the federal constitution, then recently formed, and referred to the several States for adoption. It met with great opposition in the State, though General Washington was its advocate, and Mr. Madison its zealous supporter. In this convention, Mr. Marshall joined Mr. Madison in favor of its adoption; while Patrick Henry and some other able and eloquent men were strongly opposed to it. Mr. Marshall was much attached to the union of these States; and he with many other statesmen and patriots considered it essential to its preservation, to adopt the form of government then recommended. It was in this convention that Mr. Marshall displayed the great strength of his intellect and the soundness of his judgment. And here he acquired a high character as a politician and a patriot, which continued with him to the close of life, and was even enhanced on some later occasions of great emergency and responsibility. The efforts of Mr. Madison and Mr. Marshall secured the vote of Virginia in favor of the federal constitution; and had not that State accepted it, the union would have been in imminent danger of being lost forever.

After the present federal government was established, Mr. Marshall was the able supporter of Washington's administration; and both as a member of the legislature of Virginia, and as a private citizen, was zealous in the defence of the measures of that great patriot, when many persons of influence in his own State and in other parts of the union complained and opposed. In the year 1796, he was offered the place of attorney-general of the United States, by President Washington, which he declined, from considerations of duty to his family. About this period, he became acquainted with George Cabot, Fisher Ames, Samuel Dexter, Theodore Sedgwick, then members of Congress from Massachusetts; and to whom he became highly attached, on account of their talents, their patriotism, and their sentiments of constitutional liberty.

When Mr. Monroe was recalled from the French court about this period, General Washington invited Mr. Marshall to undertake that embassy; but he declined, probably for the same reasons which prevented his taking the office of attorney-general in the federal government. In 1797, he was appointed by President Adams, with Mr. Pinckney, of South Carolina, and Mr. Gerry, of Massachusetts, as envoy to the government of France. The situation of our country in its relations with France was then critical and alarming; and it was believed that three commissioners might have more effect, to maintain peace, than a single individual. Mr. Marshall was induced, after much hesitation, to undertake this service; many of his political friends urging him to sacrifice personal considerations for the good of the country. This mission did not indeed produce the result expected, though conducted with great zeal and talent.

Soon after the return of Mr. Marshall, he was elected a member of congress; and it has been said, that he consented to be a candidate at the special instance of General Washington. This was a theatre for the display of his great and peculiar powers of mind; for he was eminent as a logician as well as a sound, constitutional lawyer. And he had frequent occasion for calling forth all his intellectual strength. He was always found on the side of the constitution, and was an able supporter of most of the measures of Mr. Adams' administration. It was his great praise to enjoy the confidence and to possess the high opinion both of Washington and Adams. The offices given or offered him by the former afforded proof of his entire confidence in his judgment and probity; and Mr. Adams was equally disposed to depend on his abilities for support, while he was at the head of the government. In 1799, Mr. Adams offered him a seat on the bench of the supreme court of the United States, then become vacant by the death of Judge Iredell of North Carolina, but he declined. In May, 1800, Mr. Marshall was invited to take the office of secretary of war, by President Adams; and soon after, on the misunderstanding between the President and Mr. Pickering, he was appointed secretary of state. The high duties of this very responsible office were discharged with singular ability and perfect fidelity. The state papers of Secretary Marshall were admired abroad, as well as by the intelligent men in the United States, for their lucid arrangement, strength of argument, and moderation and firmness.

Before Mr. Adams retired from the presidency in the spring of 1801, the office of chief justice of the supreme court of the United States being vacant, he nominated Mr. Marshall to that exalted station. This nomination was altogether unsolicited, not only by Mr. Marshall himself, but also by his personal friends. The appointment was alike honorable to Mr. Marshall, whose character was so highly estimated; and to Mr. Adams, whose good judgment and regard for the cause of justice and equity, led him to select so suitable a person. Judge Marshall continued to adorn and dignify that high station—as high and important as any in the government—during the period of thirty-four years, when his death deprived his country of his further services. His

judicial career was uncommonly long; and it was also highly useful and honorable. He was wholly devoted to the great duties of his station; and his impartiality, discernment, probity and learning were such, that all had confidence in his decisions. He kept himself entirely aloof from party strife and contention; and sought solely to render equal and exact justice to every suitor. Few judges have given such evidence of legal ability, and an impartial regard for justice; none have excelled him in these respects. He will long be esteemed as one of the very eminent statesmen and patriots of the generation now just closing upon us, who defended and blest our country, and labored to establish our republican institutions on a just and firm foundation.

His judicial decisions on constitutional questions are a legacy of immense value to the country. They will be attentively studied by every student of national law. But to the literature of the country he has left a legacy not less valuable in his life of Washington; originally published in five volumes, and subsequently condensed into two, it comprises a history of the United States to the close of Washington's administration, with which every freeman ought to be familiar.

RELICS IN THE DARK AGES.

The period, commencing at the middle of the eighth, and extending to the middle of the sixteenth century, may justly be called a period of darkness. A nominal christianity had taken the place of paganism; yet this period comprehends more instances of absurdity in opinion, and elaborate folly, in superstitious practices, than the whole of the other portions of the history of the church. In this melancholy period, the priests and professors of the religion of Jesus, having indeed 'a form of godliness, but denying the power thereof,' suffered imposture and fanaticism to usurp the name of religion, while the unshaken confidence in God, the earnest aspirations after immortality, the untiring benevolence of the early christians, the 'faith, hope, and charity,' of the apostles, become almost extinct.

The historian, finding himself wandering amidst the aberrations of the human understanding, has to grope his way through confused accounts of monastic institutions, relics, canonizations and indulgences, and he finds it no easy matter to conduct his reader safe amidst the interdicts of the popes, the battles of the crusaders, and the wrangling of the schools. We have neither time nor inclination to treat of all these topics, nor should we be excused for dwelling, at length, upon any of them.

They are interesting chiefly as illustrations of the weakness of human nature, when suffered to grope in the mazes of ignorance or superstition. In such circumstances, there appears in men a propensity to folly, which, in an enlightened age, would never be suspected, much less believed, without a recurrence to history for the proof.

In the beginning of the ninth century the passion for the accumulation of the relics of saints appears to have reached an extraordinary height. A superstitious regard for men of reputed sanctity when alive, appears to have been extended to their corrupted remains after death. Every year brought new accounts of miracles performed by these exuviæ of the faithful. In consequence of his abstinences, his penances and his prayers, the anchorite, who for many years had separated himself from the society of mankind, and given himself up to fasting, to flagellations, and other sufferings, or who was supposed to have done so, was thought to have overcome the *malignity of matter;* and though for many years he had borne the buffetings of satan, yet at length his austerities had availed for the purification of his flesh, as well as his spirit. A portion of his spiritual excellence was infused into his body, and that flesh which had once been the source of all evil, being now purified and refined, was reputed to be effectual in healing the sick and restoring the dead to life.

Judea was the most fruitful soil for the production of relics. Many persons, of whom some were eminent in station, and others distinguished in the learning which was prevalent in those times, made long pilgrimages thither for the express purpose of procuring those holy relics. Innumerable fragments, bones or pieces of bone, legs, arms, toes, fingers, skulls, jaw-bones and teeth, were brought to Italy. It is not however by any means to be supposed that all the relics purporting to have come from the holy land which were to be found at Rome, were actually brought from Judea. Very large sums of money were often paid for them, and it was no difficult matter, in those days of miracles, to multiply any kind of relics that would bring a good price. The purchasers sometimes procured these relics to be incased in gold or surrounded with precious stones, and wore them as amulets about their necks. The faith, which made it impossible to question the holiness of a consecrated priest, was not over scrupulous in requiring evidence of the genuineness of the fragment. Their entire ignorance of anatomy made it very possible, for those who were not remarkable for honesty, to substitute the bones of other animals for those of human beings. Hence he who records the fullness of human credulity will not fail to state that many a devotee has wept over the bones of the leg, or spine, of a dog or a jackall, pleasing himself all the while with the belief that he had before him a veritable relic of the holy St. Peter, St. Bartholomew or St. James. Sometimes the relics were represented to have been found in consequence of immediate revelation from heaven, a holy monk or a female renowned for chastity, being directed to the place where they lay dispersed or interred. Many real crosses and fragments of the true cross were sold; and it seems from the accounts that not one of the thirty pieces of silver which Judas received for his treachery was lost; for even these became sacred relics. By what ear-mark they were distinguished does not appear, but when they became valuable as relics, they were all brought forward. One of them is still, or was recently, shown in the entrance of St. Peter's at Rome. These thirty pieces of *silver* have sometimes been transmuted into *gold*, but are not on that account the less valuable. The source of all this delusion lay primarily in the natural feeling of the human heart, which prompts all men to regard with interest the instruments, the places, and the persons connected with

important and interesting events, but was sustained and carried to the greatest height and extravagance by the arts of designing and interested men, who found this an easy method of raising money.

ESCULENT SWALLOW. (HIRUNDO ESCULENTA.)

This species of swallow derives its specific name from the circumstance that its nests may be eaten, and are esteemed, by the emperor and the great mandarins of China, to be a great luxury. In the Malay language they are called *susu*.

The esculent swallow is four inches and a half in length, and eleven inches in expanse. Its beak is black; the upper parts of the plumage of a shining dusky black; the under parts of a pale ash color; the wings when closed, an inch longer than the tail, which is slightly forked, and has the feathers of a uniform black color, and rounded at the ends; the outer feathers an inch and three quarters long, being half an inch longer than those in the middle.

The nest generally weighs about half an ounce, and is shaped like a saucer, with one side flattened, which adheres to the rock. Its texture somewhat resembles isinglass, and the several layers of which it is composed are very apparent, it being fabricated of repeated parcels of a soft slimy substance. Authors differ very much respecting the materials of which it is composed; some imagine it to consist of sea worms of the class of Molusca, others of the sea qualm, (a species of cuttle-fish;) or of a glutinous sea-plant called *agal-agal*. Others have conjectured that it robbed other birds of their eggs, and after breaking the shells, applied the glaire to the construction of their own frail tenements. Others again have imagined that a portion of the food of the bird was disgorged for the purpose of building the nest. But in fact, though any body can take a nest to pieces, and eat it if he choose, there is probably nobody that can build one, or inform us in what manner the little architect elaborates her peculiar structure.

They are found only in the islands on the coast of India, and more particularly in Java. The property in them is claimed exclusively by the sovereign, and every where forms a valuable branch of his income, or of the revenues of the state. But being frequently found in remote and sequestered situations, these nests are subject to the perpetual depredations of freebooters, and it sometimes happens that the principal object of a war by one petty power against another, is to obtain a few esculent birds' nests.

These nests are often found in deep and damp caves, some of which are very difficult of access, and can be taken only by persons accustomed to the occupation from their youth. The most remarkable caves are those of *Korang Bolang* in the province of *Bagden* on the island of Java. Here the caves are to be approached only by a perpendicular descent of some hundred feet, by ladders of bamboo and rattan, over a sea rolling violently against the rocks. When the mouth of the cavern is attained, the dangerous labor of taking the nests is often to be performed by penetrating, by torch light, into the recesses of the rock, where the slightest mis-step would, instantly, be fatal to the adventurers, who see nothing below them but the turbulent surf making its way into the chasms of the rock. In situations like these, where the caverns are difficult of access to strangers, and where there reigns enough of order to secure them from internal depredation, and to admit of the nests being taken without other expense than simply the labor of taking them, their value is very great. The produce of these caverns is usually about 6,310 lbs. of nests, which are worth at Batavia prices, 1,200, 2,500 and 3,200 Spanish dollars per picul of 136 lbs. each. They bring the highest price the Chinese epicures will afford to pay, and the whole produce being monopolized by the sovereign, there is no competition. The mere expense of collecting and assorting is not more than about one tenth of the price. There are three qualities, the first or best, consisting of the finest and whitest nests, such as are taken before the birds have laid their eggs; and the second, and third sort. The poorest are those which are taken after the young birds have been fledged.

The price of birds' nests of the best sort at Canton is no less than $3,500 per picul, or about $25,73 per lb. It will be obvious from this statement that this kind of food is nothing more than an expensive luxury. The greater part are sent to the capital of China, for the consumption of the court.

The epicures who eat them have the nests of the best sort, which are entirely free from dirt, dissolved in broth, by which means it is thickened, and, according to their statement, acquires an excellent flavor. Sometimes the nests are soaked in water, taken to pieces and mixed with ginseng, and then used as stuffing for fowls; which being stewed, in a sufficient quantity of water, are left over hot coals for a night, and then afford a *great* man delicious eating.

THE POLE-CAT.

This is an animal, notwithstanding its name, of the weasel kind. All the animals of this class may be distinguished from other carniverous animals by the length and slenderness of their bodies, which are fitted to wind, like worms, into very small openings in search of their prey; and in consequence of their similarity to the worm in this particular, they have sometimes been called vermin. These animals also differ from those of the cat kind in the formation of the claws, those of cats being capable of being retracted or extended at pleasure, which is not done by weasels. They also differ from the dog in being clothed with fur rather than hair. Some varieties of the fox are, indeed, clothed partly in fur, but the fur of the fox has a much greater resemblance to hair than that of the tribe of weasels. Besides these distinctions, all animals of the weasel kind have glands, placed near the anus, that open either into or beneath it, furnishing a substance that has, in some, the most offensive smell in nature; in others, the most agreeable perfume. From the shortness of their legs they are slow in pursuit, and therefore owe their success in hunting, to patience, assiduity and cunning. They can live a long time without food, but when they happen to find smaller animals which they can overcome, they destroy all within their reach, and suck the blood before they touch the flesh.

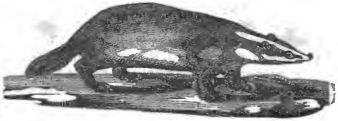
The pole-cat so much resembles the ferret in form, that some have taken it for the same animal. It is however larger, less slender, has a blunter nose, and differs internally in having only fourteen ribs, while the ferret has fifteen. The length of the pole-cat is about seventeen inches, whereas that of the ferret is but eleven. The pole-cat is for the most part of a deep chocolate color, but is white about the mouth, the ears are short, rounded and tipped with white. There is also a stripe from near the corners of the mouth some distance backward, partly white and partly yellow. The hair being of two different lengths, the longest is black, and the shortest yellowish; the throat, feet and tail are blacker than the other parts of the body; the claws are white underneath and brown above.

It is very destructive to young game of all kinds, but especially to rabbits, and the more so as it kills, when the opportunity offers, much more than it can eat.

It generally lives in woods or thick brakes, burrowing under ground about six feet, and commonly ending among the roots of large trees, for greater security. In winter the hen-roost, the dove-house, and the bee-hive, if not carefully guarded, will be in danger of robbery from these animals when they are in the vicinity.

The female brings forth her young in summer, five or six at a time, and trains them to her own rapacious habits by supplying the want of milk, which the carniverous tribe never have in sufficient quantity, with the blood of such animals as she happens to seize.

The fur is soft and warm, but has an offensive smell which cannot be entirely removed, and is therefore less esteemed than some other kinds of a coarser quality.



THE BADGER.

The general length of the body of the badger is about two feet and a half; and that of the tail, six inches. Its body and legs are thick. The eyes and ears are small; and the claws of the fore-legs long and straight. This animal is of a uniform gray color above, and on the under parts entirely black. The face is white; and along each side of the head runs a black pyramidal stripe, which includes the eyes and ears. The hair is coarse, and the teeth and claws are peculiarly strong.

Although in itself a harmless and inoffensive animal, living principally on roots, fruit, and other vegetable food, the badger has been furnished with such weapons, that few creatures can attack it with impunity. The address and courage with which this animal defends himself against beasts of prey, have caused him to be frequently baited with dogs, as a popular amusement. Though naturally of an indolent disposition, he now exerts the most vigorous efforts, and frequently inflicts desperate wounds on his adversaries. The skin is so thick and loose, as not only to resist the impressions of the teeth, but also to suffer him, even when within their gripe to turn round and bite them in their most tender parts. In this manner does he resist repeated attacks, both of men and dogs, from all quarters; till, overpowered with numbers, and enfeebled by wounds, he is at last compelled to submit.

The badger inhabits woody places, the clefts of rocks, or burrows which he forms under the ground. He is a very cleanly animal, and keeps his subterraneous mansion exceedingly neat. He continues in his habitation during the day, and does not make his appearance abroad till the evening. At times, from indulging in indolence and sleep, he becomes excessively fat. During the severe weather of winter he remains in a torpid state in his den, sleeping on a commodious bed formed of dry grass. Under the tail there is a receptacle, in which is secreted a white fetid substance, that constantly exudes through the orifice, and thus gives him a most unpleasant smell.

These animals are not known to do any other mischief to mankind, than by scratching and rooting up the ground, in search of food. This is always performed during the night; and from this arises one of the modes usually practised of taking them. Their den is discovered; and when they are abroad in the night, a sack is fastened at the mouth. One person remains near the hole to watch;

while another beats round the fields with a dog, in order to drive them home. As soon as the man at the hole hears that a badger has run in for refuge, he immediately seizes the mouth of the sack, ties it, and carries it off. Sometimes these animals are caught by means of steel traps, placed in their haunts.

They live in pairs; and produce in the spring of the year, four or five young ones. If caught before they are grown up, they may be tamed. The skin of the badger dressed with the hair on, is used for various purposes; and the hairs are made into brushes for painters. The flesh, when the animals are well fed, makes excellent hams and bacon.

The affection of badgers for each other is considered to be very strong. Two persons, having killed a badger in France, were dragging it along the road by means of some twisted twigs, when hearing the cry of another animal in seeming distress, they stopped to ascertain whence the noise proceeded. Perceiving another badger approaching them slowly, they at first threw stones at it, notwithstanding which, it continued to approach, and coming up to the dead animal, began to lick it, continuing its mournful cry. The men surprised at such a token of affection, desisted from offering injury and began to drag the dead one along as before. The living animal, being unwilling to quit its companion, took hold of it gently by one ear, and lying down upon it was drawn into the midst of a village, nor could men, boys, or dogs, induce it to quit its situation till, by their treatment, its own life became extinct. Such conduct in the poor animal appeared to them so unaccountable that they burnt the carcase, declaring that such a creature must be a witch.

The badger is found in most parts of Europe, and in the western territories of the United States.

The American badger has a longer tail than the European, and is not so heavy. The weight of the latter is about sixteen or eighteen pounds.

NEWSPAPERS.

The extent to which newspapers are circulated in the United States, is much greater than in any other country on the globe. It is doubtless a subject of congratulation, that almost every man, who can support himself, can also take and pay for a newspaper. Yet there is one difficulty attending them. Most of the subscribers, especially in the country towns, take but one paper, and since all the political papers are engaged in the support of a party, the readers fall in a great degree, under the influence of the paper they read. This result is a matter of necessity. The newspaper is the source of all the political information which is readily attainable by its readers. Whatever has an unfavorable bearing against the party supported by a paper is excluded from its columns. Not only the arguments of the opposing party, but the facts, are either entirely excluded, or so distorted that it is difficult to form a correct conclusion, on the subjects of the greatest importance. It is as much the duty of a freeman, so far as he has opportunity, to make himself acquainted with the facts and arguments, relied on by both parties in a political question, as it is to know any thing about political subjects. Newspapers which profess to be neutral, in politics, do not answer the purpose desired by many who wish for a general summary of information on all subjects; first, because the fear of giving offence excludes much which ought to be known, and next, because the profession of neutrality does not always, nor indeed very often, ensure impartiality. It is therefore as much the duty of freemen to read papers in opposition to their own political sentiments, when they have sufficient leisure and opportunity, as it is for a juror to hear the evidence and arguments, both for the plaintiff and defendant in a litigated question of property. Indeed the contest which is almost continually going on between the different parties, for the honors and advantages of office, may well be compared to a litigation in which the issue being made on a question of fact, the candidates, being the litigants, put themselves on the country for trial, which country the freemen are. The vote at the polls is the verdict, and it ought to be given under the same conscientious sense of obligation to do right, by which a juror should feel bound in judging of a controversy between his neighbors. Editors of newspapers ought likewise to consider themselves, in making their selections, in the character of witnesses, bound by the strongest obligation to give 'the truth, the whole truth, and nothing but the truth;' and when in their editorial articles, they assume the character of an advocate, many of them would appear much better, if they would pay more regard to candor and truth than they do. Advocates at the bar seldom gain much, in the long run, by wilful misrepresentation; and the case will eventually be found to be the same with political advocates who for a fee, or for any other compensation, plead the cause of candidates for office, in the public papers.

DESTITUTION OF THE MEANS OF EDUCATION.

A very intelligent commissioner of the British government, who has but recently investigated the system of police and education adopted in the United States, has reported, that there are in the States south and west of New York, at least *thirteen hundred thousand free white children and youth* totally destitute of the means of elementary education.

MEDITATION.

What is the state of man? A mortal, destined
For immortality. Before him earth
Spreads out its gaudy flowers. The birds with songs,
Of varied harmony, a little while
Amuse him, till his transient summer passes.
Suns rise and set and he perceives no change,
Till like a sere and withered leaf he falls.
The present hour, his present griefs and joys
Contract his view. Unmindful of his high vocation,
He counts the pebbles which he treads upon,
And these he calls his wealth. But would he rise,
Would he but wake and learn, though late, to hold
Communion with his Maker, he should know
There is a treasure, richer than the store
Of gold and gems which earth conceals —a crown
Of glory, such as mortal never yet
Hath set an eye upon,—eternal life,—
Unmingled, holy, pure, unceasing joy.
Awake, arise, on wings of eager hope,
Now, e'en now, thou may'st be carried far
Beyond the bounds of time, and God shall give
Thy soul a foretaste of Eternity. G.

STUDY OF GEOLOGY.

Every one has heard of the volume of nature. The expression is inaccurate. Nature's works consist of many volumes, and among them all there is not one which contains a fiction. They are all true, and all worthy of our attention.

It is but a few years since Newton opened and read to us one of the volumes of nature's works, containing the law of the stars. We still gaze upon it in admiration. By contemplating it, man becomes more assimilated to the author of his being. The mind which begins to exist to day, may soon examine the laws by which the millions of orbs that fill the immensity of space are governed in their swift and wondrous course. When he shall have seen the order and the harmony of the movements of the heavenly bodies, he will feel it beneath his dignity to hold communion with sordid minds that cannot feel the grandeur of those mighty works of God which he delights to contemplate.

Cuvier has unfolded the law of animal life. The astronomer may call on us to gaze at the heavens, and wonder at the harmony, the beauty and the perfection which is there manifested; but there is not less of harmony, or of beauty, or of perfection, in the formation of any one of the animals which walk on the ground, or swim in the deep, or wing their way in the invisible, but buoyant air. Here, then, is another volume of nature's works, which, though its subject occupies less than the immensity of space in which the orbs celestial roll and shine, will equally command our admiration and afford us, in the research, unmingled pleasure.

There is still another volume of her works in the thousands of varied and beautiful specimens of vegetable life. As the astronomer, and the zoologist, in their departments, so the botanist finds, in the plants, the flowers and fruits of the earth, abundant cause for wonder and admiration.

But the volume of which we wish particularly to speak is one which has but recently begun to be read. It is indeed but a few years since it was discovered, that the wisdom and the power of our Creator was manifested in language intelligible to man, not only in the structure and movements of the heavenly bodies, and in the animal and vegetable kingdoms, but in the crust of the earth itself. Till within a few years the rocks which compose the greater part of the surface of the earth seemed to have been placed fortuitously, and without arrangement, in the positions in which they are found. But recently it has been discovered that the crust of the earth is like an ancient scroll, which only requires to be unrolled and read with skill and careful attention, to enable us to discover, not merely matter of nterest to a vain curiosity, but hidden mysteries of the greatest value to our comfort and prosperity. In many places near the surface of the earth we can count as many laminæ, or distinct layers of rock or earth, as there are leaves in an ordinary volume. Every one of these laminæ, when carefully examined affords some interesting information. They show as evident marks of arrangement as the succession of pages in a book. In some of them we find treasures of the highest value in the arts, which seem to have been elaborated by processes now unknown, and carefully laid up in a safe repository for the use of generations which were to exist, thousands, or for aught we certainly know to the contrary, hundreds of thousands of years afterward. In some of them we find, not indeed descriptions in words, but exact representations of animals which once had life, and exulted in the exercise of powers and faculties, bestowed on them by their Creator for the wisest purposes, and which so far as human research extends, appear to have long since ceased to live. Innumerable relics of bones, and teeth, and sometimes of other parts of animals lie scattered about, and intermixed with the ruins of former times, in such a manner that we are authorised to conclude that even the rocks themselves, are of a later formation than the creation of animals, and to enable us often to make other inferences which mark the wonder-working power of Him who formed and now sustains "the great globe itself and all which it inherit."

The science of geology is yet imperfect. The great scroll has been but partially unrolled. The surface of the earth has not itself been fully examined, much less the numerous varieties of materials and structure which lie near it. There are, however, many men of genius and learning constantly exploring the various structures of different portions of the crust of the earth, and comparing the results of their observations. It is from the multiplication of scientific observations and a careful comparison of them with each other that the truth is elicited. This work is constantly going on, and important additions are made every year to the stock of geological knowledge. It is the business of scientific men to collect and arrange the facts which careful and extensive observation has established, and connect them together by such general laws as may appear to afford solutions of the most important phenomena. But mere hypotheses, especially such as may be formed in the closet, by speculative minds, without a practical acquaintance with facts, should generally be rejected, as tending to bewilder and lead to error.

It is not necessary to success in many kinds of business that a person should have a knowledge of geology; but those who have time and opportunity to extend their inquries beyond subjects immediately connected with their personal wants, will find, in the many wonderful facts and processes which this science unfolds, abundant matter for the gratification of a thirst for knowledge, and for the exercise of the highest powers of genius.

The revolutions which must have taken place, by means of flood or fire, the indications of animal or vegetable life, which must have required, according to their present constitutions, a long succession of ages for their developement, the mode in which the treasures prepared for our use have been safely laid away, these and a thousand other things too numerous to be named, call for the exercise of the highest powers of our minds to enable us to understand them; and if we can refer them, as we should with pleasure, to the wisdom of Him who 'worketh all things after the council of his own will,' we shall find abundant cause to adore the power of Him 'who spake, and it was done, who commanded and it stood fast.'

[Worcester Rail-Road Depot, and City Hotel, Boston.]

WORCESTER RAIL-ROAD.

Rail-roads are now numerous in different parts of the United States: and though the expense of constructing them is very great, they are a great improvement, in facilitating travel and the transportation of goods of various kinds. Large as is the capital which is required for such works, the income is such generally as fully to indemnify the proprietors, and to prove the investment profitable.

The short rail-road, from the granite quarry in Quincy was the first in Massachusetts, if not the first in the country. That was constructed ten or twelve years ago. But the use and benefit of it was confined to the transportation of large blocks of granite from the quarry to the tide water of the Neponset river. In this State there are now three rail-roads completed, which have been in use for fifteen months or more; these are the rail-roads leading from Boston to Worcester, Lowell and Providence; the Worcester rail-road was incorporated in June, 1831; and in 1832 and in 1833 additional acts were passed, extending the privileges of the company. The starting point, or the termination of the road, in Boston, is at the south part of the city; and the direction is a little north of west, crossing the bay and flats west of the city. That route was not originally permitted; but was afterwards granted, and is very important, as it thus gives a straight and level way for some distance.

The road passes through Brighton, Newton, Needham, Natick, Sherburne, Framingham, Hopkinton, Southborough, Westborough, and Grafton. The whole distance is between forty-three and forty-four miles. Part of the road, as far as Needham, twelve and a half miles, was opened, in the summer of 1834; and thence to Westborough a distance of thirty-one miles from Boston, in November, 1834; and thence to Worcester in July, 1834. Since that time, the road has been in successful operation; and we believe the business and the income have been fully equal to previous calculations. The usual time taken up, in passing between Boston and Worcester, is about two hours and a quarter. It has been thought prudent not to push the velocity as far as possible, as more injury might be done, than any supposed benefit arising from the saving of twenty minutes of time in the passage. In several places there is an ascent on the road; the greatest is thirty feet in a mile; and that is at the western part of the road. The most difficult and expensive portion of the whole road was between Charles river and Needham, where the ascent is considerable. The whole amount of ascent in proceeding from Boston to Worcester is 556 feet, although the levels, as taken, show the elevation of Worcester to be only 456 feet above the avenue near Boston.

The business done on this road has been considerable. It is believed the expectations of the projectors have, in this respect, been fully realized. The extension of this road to Springfield on Connecticut river and thence to the west line of the State to meet a rail-road from Albany, is now impatiently expected by the public. The charter having been granted and the corporation organized, this project will probably be vigorously prosecuted. This will form a connecting link between New-England and the western States, opening a new market for the abundant produce of the latter, and new sources of enterprise for the industry of the former. A branch from Worcester to Norwich at the head of the Thames, in Connecticut, is also in contemplation, and will probably be completed in due time. The Worcester rail-road is managed with great ability and promptness, so as to furnish inducements for

a preference in the travel, and transportation of goods, to any other mode of conveyance. The cars and machinery are in fine order, and we believe no serious accidents have occurred on it. During the summer season three, and in winter two, trains of passengers' cars, have run each way daily, excepting Sundays. The regularity of these trips was sometimes interrupted during the winter, by the snow and ice; but there were only six days, in which one or more passages were not made; and not more than twenty, in which the usual number of passages were not made at the stated times. Besides the regular passengers' cars and trains, other trains of baggage cars, for the conveyance of merchandise, have been run during the principal part of the time since the road was opened. There are now provided, engines and cars, which are supposed to be sufficient for the conveyance of all the passengers, and all the goods, which may be offered for conveyance on this line. The depots and turnouts at suitable places have been completed. In making the road near Worcester, in the third division of the road, as it is called, the expense exceeded the estimates; but it has been completed in a manner apparently to prevent the necessity of many repairs or additional costs. The travelling has been so great as to require an increase of the number of locomotive engines, and cars for passengers and merchandise, which has added to the expenses of the corporation. The cost of land has also much exceeded the first calculations; it has therefore been necessary to increase the capital stock.

The receipts arising from the fare of passengers and freight, with some minor sources of income, up to July last, amounted to $69,375,62; expenses of the transportation department, of repairs of the road, engines and cars, during the same time, amounted to $41,364,32. The receipts from the same sources, from July, 1835, to January last, were $92,430,33; and the expenses of transportation and repairs were $44,168,96. A dividend of profits, of two per cent. was declared in July, 1835, and one of four per cent. in January last. The receipts of the company to January last were as follows:

From assessments on 12,453 shares	$1,245,300
From income, fare of passengers, and freight	161,805
From other sources,	26,621
	$1,433,726
Payments to same date, viz. for making the road, land, engines, cars, &c.	1,319,697
Expenses of transportation and repairs of road, cars, &c.	85,533
For account of first dividend,	24,536
Balance on hand,	3,960
	$1,433,726

An assessment of $30 per share was paid in February last, and one of $25 per share in May and July last. There were in operation on the road in April last seven locomotive engines, six of them built in England, and one in Boston, by Mr. Bouton. Two have been since added; one built in Philadelphia, and one in Lowell. The cost of the road was originally estimated at about $850,000. This included labor, land, iron, carriages, engines, &c. The cost has therefore considerably exceeded the first estimates. The expense of carrying the railroad under Washington-street, in Boston, of a bridge over the road at this place; of a similar bridge on Front-street; of filling in the flats, making land at south cove; and of continuing the road through the cove, to the place of its final termination, has been necessarily great; but the advantages of this plan are also great, and these expenses are expected to be fully reimbursed to the stockholders with considerable profit. The contemplated extension of this road westward is a matter of great interest to the proprietors of the part already in operation, as well as to the public generally. But the success of the first experiment in providing for the accommodation of the public in this vicinity ensures the probability of the speedy completion of the remaining portion of the avenue to the great west; when it is expected that Boston will share in the prosperity of that region of inexhaustible abundance.

RAPIDITY OF COMMUNICATION BY TELEGRAPH.

There is a line of telegraph communication from Liverpool to Holly-head, a distance of seventy-two miles. A communication is frequently sent through the whole line exactly at one o'clock, in order that the signal men may regulate their time-pieces. This is done by a peculiar signal, sent off at the instant the clock strikes *one*, which asks the question, 'Is there any thing to communicate?' An answer is returned *yes* or *no*, as the case may require. The time occupied in transmitting the question and returning the answer, the whole distance being 144 miles, is considered unusually long if it occupies a *minute*.

SILK ESTABLISHMENT IN NEW HAMPSHIRE.

Two ladies, grand-daughters of General Stark, a name known in the annals of the Revolution, have a silk establishment at Dunbarton, New Hampshire, consisting of a mulberry orchard of twenty-five acres; ten of which were planted ten years ago. The trees on the other fifteen acres are three or four years old. The past season they have erected a two-story building 60 feet by 19, for the purposes of the establishment. At the fair of the American Institute, recently held in New York, they exhibited specimens of sewing-silk, twist, stocking-yarn, a purse, cocoons, and floss, which were very favorably noticed; the twist, which was of an excellent quality, was reeled on Brooks' patent reel, at Hopkinton, under the direction of Mr. Wadsworth.

The sewing-silk consisted of specimens of six different colors, viz. cinnamon, colored with butternut bark; light and dark orange, colored with wood of the sumac; yellow, colored with peach leaves; black, and green; all fast colors.

This establishment, begun so long ago, upon so large a scale, and now increasing, evinces a degree of enterprise, and a confidence in the success of this branch of American manufacture, which deserves honorable mention. Nor is it impossible that the example of these ladies may be as efficient in the race of competition with Great Britain in the arts of peace as was that of their ancestor in the strife of arms.

FIRST PRINCIPLES OF GEOLOGY.

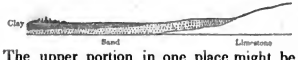
It is generally known that some kinds of soil on the surface of the earth are barren, while others are fertile, and that this difference is occasioned by a difference in the soils themselves. It is also known that some mountainous districts, contain high and naked peaks composed of rocks which have no regular shape, while in other districts the rocks lie in regular order one above another, or otherwise, in distinct layers, inclined to the horizon at some angle, which is either known or may often be ascertained. In one place a volcano lifts the surface of the earth above the clouds, while in another, by floods or other means, deep ravines are scooped out from among the hills, or dark and gloomy caverns, never visited by the light of day, hide the relics of ages long since forgotten.

In order that we may understand geological descriptions, we must have some general idea of the nature of the several varieties of soils, of the structure of rocks, and of the language of geologists.

A geological map is a representation of the different varieties of soil or of rock, either as they are found on the surface, or as they would appear if a section, or cutting were made to pass through them in a given direction. Sections are generally considered to be vertical or perpendicular, if the contrary be not mentioned. If a person were to travel through a district of country and note the limits of several kinds of soil or rock which he might pass over, and if he should afterward travel on a line parallel with the first, at some distance from it, and note the same kind of limits, he might connect the points, and thus form a geological map of the surface.

By further examination, either by digging or by observing the natural face of ravines of brooks, or from other similar indications, he might conclude that these varieties rested one upon another, and their thickness might often be pretty accurately estimated. To express his views more distinctly, it would be well for him to make a drawing of the section. Suppose it to be such as below.

Fig. 1.

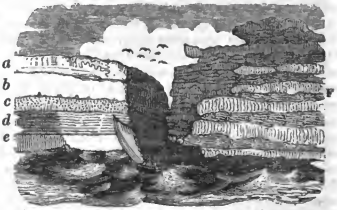


The upper portion in one place might be clay resting on a layer of sand. Wherever the latter makes its appearance, it is said to *crop out* at that place. Below both these there might be a bed of limestone, or, in some countries, a bed of carbonate of lime, or chalk, below which, upon deeper investigation might be found some other kind of rock extending, possibly, to an unfathomable depth.

In relation to rocks it must be remembered, every kind of earth, as well as stone, which forms a portion of hard land, though it be nothing more than hard clay, and even a mass of incoherent sand, in the language of geologists, is termed a rock.

It has been ascertained that many geological rocks have been deposited one above another, in distinct layers, or *strata*, from a chemical solution, or a mechanical suspension in water. Such rocks are sometimes called *aqueous* but more generally *stratified*, and may be represented as follows.

Fig. 2.

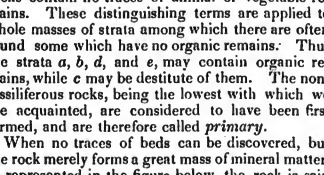


These strata may severally have nearly even surfaces as *a*, *b*, *c*, *d*, *e*, being piled one upon another, like the leaves of a book, or several books, or like pieces of cloth; or they may be more irregular like the strata marked F, where it may sometimes be difficult to determine the exact line of division between the beds.

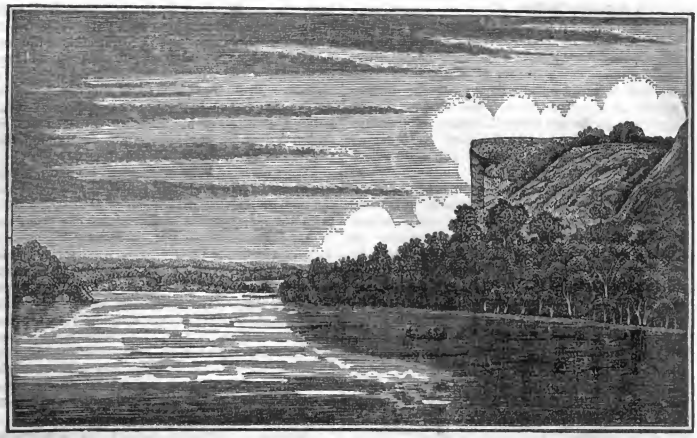
The stratified rocks are also divided into the *fossiliferous*, and the *non-fossiliferous*. The fossiliferous rocks contain remains of vegetables or animals, which are supposed to have existed previous to the formation of the rocks, and parts of them, or in some cases, the whole animals, found in various states of preservation and minerization, are called *fossils*, or organic remains. The non-fossiliferous rocks contain no traces of animal or vegetable remains. These distinguishing terms are applied to whole masses of strata among which there are often found some which have no organic remains. Thus the strata *a*, *b*, *d*, and *e*, may contain organic remains, while *c* may be destitute of them. The non-fossiliferous rocks, being the lowest with which we are acquainted, are considered to have been first formed, and are therefore called *primary*.

When no traces of beds can be discovered, but the rock merely forms a great mass of mineral matter, as represented in the figure below, the rock is said to be *unstratified*.

Fig. 3.



Rocks of this character are frequently found in mountainous districts, and are by many supposed to have been thrown up from the deep recesses of the earth by the force of fire, and are therefore called *igneous*. The certainty of their origin, as well as that of some of the stratified rocks, may be disputed, but in all such cases the most plausible theory, to which there are no insuperable objections, must be taken to be true till superseded by a better one.



THE MAIDEN'S ROCK.

Two hundred and thirty miles west of lake Michigan, and one hundred and fifty south of the most south-western point of lake Superior, the channel of the Mississippi, by becoming deeper and wider than ordinary, assumes the appearance and character of a lake, to which the French have given the name of lake Pepin. This lake is twenty-one miles long, and, on a average, two miles and a half broad, and, in most places, nearly fills the valley between opposing bluffs. These majestic heights extend along the shores of the lake in a more regular manner and at a more uniform elevation than the hills which are found on the banks of the river. Here too, instead of the rapid current of the Mississippi, winding around numerous islands, with surfaces sometimes covered with wood, and sometimes presenting barren tracts of sand, the lake presents an unbroken expanse of water, which the traveller will often find still and smooth as a polished mirror. The Indian will not cross the lake when the wind is strong, for though small, it is deep, and easily agitated so much as to make it dangerous for a man to expose himself to its waves in the frail vehicles of the natives.

On ascending to the top of one of the majestic bluffs that enclose the lake, the country presents a surface nearly destitute of trees, having the appearance of an elevated prairie. About half way up the lake its eastern bank rises to a height of nearly five hundred feet. The lower three hundred feet consists of a very abrupt and precipitous slope, extending from the waters' edge to the base of a naked rock, which rises a hundred and fifty or two hundred feet higher. On each side of the projecting base, a small basin scooped out between the towering precipices receives a brook from vallies, which descend from the elevated lands above.

The wildness of the scenery is such that the traveller, who has already gazed with delight on the high bluffs of the Mississippi, is struck with uncommon interest on beholding this spot. He will here find what he will meet in no other point of the far stretching valley of the great river, a high projecting point, a precipitous crag resting upon a steep bank, whose base is washed by a wide expanse of water, generally with a calm unruffled surface contrasting strongly with the savage features of the landscape. Cold and callous must be the heart of the man who can contemplate unmoved and uninterested the huge cliffs that enclose this lake. Father Hennepin, the first white man who ever saw it, calls it the *lake of Tears*, because his party having been taken prisoners by the Indians, a consultation respecting their fate was held at the base of these precipices, and he says those who were for killing them cried over them all night, to oblige their companions to consent to their death. The deeds of cruelty, of daring and of danger, which have here been perpetrated will never be unfolded. But there is a tale, told indeed by a savage, but still of so much interest that many a heart will be made sad at the recital. We cannot commend the example, but it shews, notwithstanding the apathy and stoical indifference to his fate, which is usually imputed to the natives of our country, that they have the feelings of our common nature.

A dozen years ago there was in the nation of the Dacotas a celebrated and aged chief, whose name was Wapasha. It was in the time of his father, who was also a chief, that one of the most melancholy transactions that ever occurred among the Indians, took place at the spot we have described above.

There was at that time in the village of Keoxa, in the tribe of Wapasha, a young female, whose name was Winona, which signifies, *the first-born*. She was dear to her parents and a favorite with her tribe. She had formed in her mind a desire to spend her

life with a young hunter, whom she knew to be as strongly attached to her. He made an application for her to her parents, but was surprised to find himself denied by them, and that their daughter was already promised to a warrior of distinction. The latter had acquired a name by the services he had rendered to his village when it was attacked by the Chippewas, and was a general favorite in the nation. Encouraged and assisted by the favor of Winona's parents and brothers, the warrior urged his claims with ardor and unceasing assiduity, but she refused him and persisted in her preference for the hunter. To the recommendation of her friends, in favor of the warrior she replied, that she had chosen a hunter who would spend his life with her, and by his success would provide for her subsistence, and secure her comfort; but if she accepted the warrior, he would be constantly bent on some exploit, and absent from her, exposing himself to danger and his family to hardship. Winona's expostulations were of no avail with her parents and brothers, and after they had succeeded in driving away her lover, they began to use harsh measures to induce her to accept for a husband the man they had chosen. To all her entreaties that she might not be compelled to live with a man whom she so much disliked, but that she might rather be allowed to continue to spend her days alone, they paid no regard. Winona had always till now been the delight of her parents, and had been more indulged than is usual with females among the Indians. Her brothers had expressed a wish that she might be persuaded, rather than compelled to accept of the warrior for a husband. In order to remove some of her objections they took measures to make some provision for her future maintenance, and presented to the warrior, all that in their simple mode of living, an Indian could desire.

About that time a party was formed in the village to go to lake Pepin to procure a supply of the blue clay which is found upon its shores, and which the Indians use as a pigment for the purpose of painting. The parents and brothers of Winona were of the party, and she herself was also with them. It was on the day of their visit to the lake, that her brothers offered their presents to the warrior. Encouraged by these, he again addressed her, but he was again unsuccessful. Her friends, vexed and irritated at what they deemed an unjustifiable obstinacy on her part, harshly remonstrated with her, and even used threats to compel her to obedience.

'Well, then, said Winona, you leave me no hope; I told you I did not love him and that I could not live with him; I wished to remain a maiden but you would not allow me. You say you love me, that you are my relations, my parents and brothers. Yet you have driven away from me the man I loved, the only man I ever can love, and the only one with whom I wished to live. You have compelled him to go away from the village, and he now wanders alone in the forest, and has none to assist him, none to build his lodge, none to spread his blanket and wait on him when he returns to his hut, fatigued and weary with the chase; yet he was the man of my choice. Is this your love? But even this is not enough; you would have me rejoice in his absence; you would have me merry when he is far away, and unite myself with another whom I do not love, and with whom I never can be happy. Since this is the love you have for me, let it be so; but soon you will have no daughter, you will have no sister, no relation, to torment with such professions of affection.' When she had uttered these words she withdrew; but her parents, desirous of a connexion with the warrior, and heedless of her complaints, determined that she should be united to him that very day.

While all were busy in making preparations for the festival, Winona wound her way to the top of the cliff, and having gained the summit of the rock, from the very verge of the precipice she called out to her friends below; her words were borne by a light breeze to the surface of the waters, and by this means her parents understood them. 'You were not satisfied, she said, with driving away the man whom I had chosen for the companion of my life. You endeavored by deceitful words to make me faithless to him, and when you found me determined to continue single, rather than to connect myself with another, you dared to threaten me. You thought I could be terrified, and would then do what you bade me; but you knew me not, and you shall now see how certainly I can defeat your plans.'

She then commenced singing her death-song; the sounds sank deep into her parents' hearts; her father then promised that no compulsive measures should be resorted to; some of her friends ran toward the top of the hill to stop her, while others hastened to the foot of the precipice to receive her in their arms, and all, with tears in their eyes, by signs, endeavored to induce her to desist from her fatal purpose.

When the light wind had wafted to the bosom of the lake the last words of her song, they saw her throw herself from the summit of the rock and fall, near her distressed parents, a lifeless corpse.

Whenever one of the Dacotas passes near the place, he lifts his eye to gaze a moment on the giddy height, still called the MAIDEN'S ROCK; and the remembrance of Winona's dreadful fate makes his heart sorrowful; but he hopes she has gone to the Master of Life, and that a better portion is appointed for her where no sorrows will ever come to trouble her.

Such is the substance of a story related to an American traveller, by Wazecota, an aged Indian, who, though then very young, was there at the time, and saw what he related. While telling the story, the stiffness of age forsook his limbs, and the momentary restoration of the feelings of his youth manifested the deep impression made upon his mind.

Winona was but an uncivilized Indian. She had never been taught the command of the 'Master of Life,' 'thou shalt not kill;' nor had the mild precepts of Christianity taught her not to fear them who can kill the body, but after that have no more that they can do. Nor had she learned not to lay up treasures upon earth but in heaven, where neither moth nor rust corrupteth, and where no thieves break through, nor steal. Finally, let those who may be tempted to escape from the evils of life by self-destruction remember, that in so doing, they are not above the rudest savages of the wilderness.

EXCURSION TO THE TEA HILLS IN CHINA.

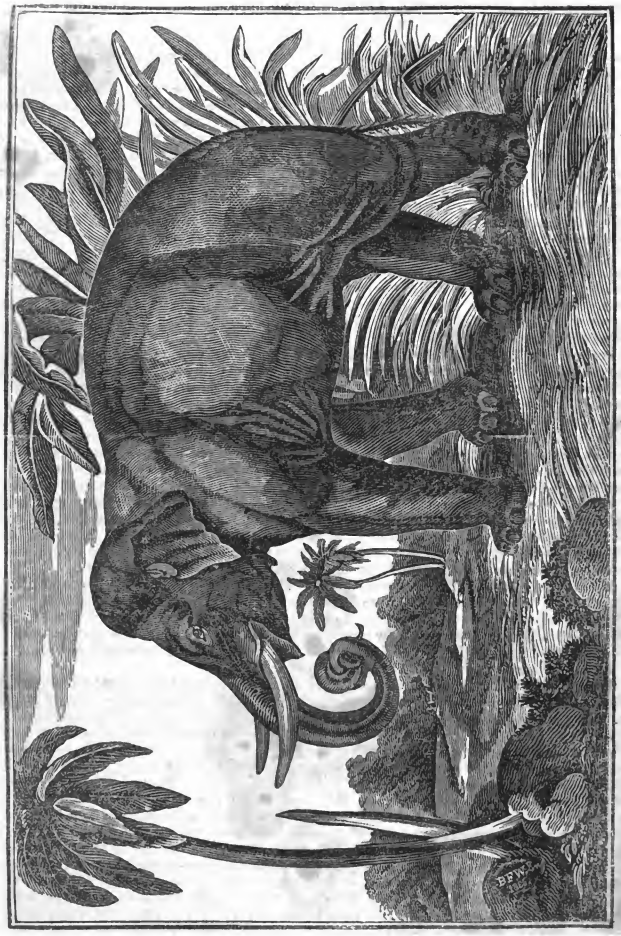
Mr. Gutzlaff a celebrated missionary in China, in company with others, recently made an excursion to the tea plantations in the black-tea district. A sketch of their observations has been published by Mr. Gordon.

The company having provided themselves with the necessaries for four or five days absence, commenced their march. The people gathered around the strange boat and still stranger visitants, curious to divine their motives. The strangers succeeded in obtaining supplies and actually found, after getting out of sight of the inhabitants of the town, one among the suspicious Chinamen to act as a guide, and two others to carry their baggage. Having proceeded for an hour, in a N. E. direction, they came to a temple where they refreshed themselves with tea, and the people appeared every where to treat them with civility. They suffered much from the great heat of the day, clothed as they were in woollen; and they were ultimately obliged to halt until the cool of the evening. Chairs mounted on bamboo poles and carried by two Chinamen, were here procured for a small sum and they proceeded on their journey; but they had not gone far before the deceptive carriers demanded an additional fee, which having been granted, they went on to a town where another fee was demanded. This was resisted, and the people who had gathered around took the part of the strangers and the extortioners were compelled to proceed. In passing through another village, the people thronging around them, insisted upon the bearers setting down their strange burdens, that they might have a look at them. For this the egregious fellows demanded one hundred *cash*, (a seventh of a cent each) for the gratification of their curiosity. The country through which they passed was crowded with people and the soil was fertile, producing rice, sugar, corn and sweet potatoes. There was not a spot even on the rugged hills, that was not made to yield to some vegetable production; and every yard of the flat surface was under cultivation. They arrived at a mountain twelve hundred feet high, of difficult ascent. Having surmounted this and descended into a valley, they halted for the night. Arrived at a river called 'Gnake, or Peaceful stream,' they took passage in a boat. The shores were all along lined with people gazing at them with astonishment. The course of the river was N. W. and very shallow: though two hundred yards in width, it was channelled with great labor to admit the passage of a light boat. At every village the people poured out as usual and paid the strangers marked civilities. From the heat of the day they took shelter under an awning of the boat, when the people waded into the stream to gratify their curiosity by a sight of them. Four hundred 'cash' was offered at some of the villages if the boatmen would bring them on shore. This being refused, the boys pelted the boat with sods, but the public men apologized for the eager curiosity of the boys. The strangers now began to look out on the black looking hills for the tea plantations, and they were assured that they were not far off.

At Toale, the residence of their guide, they were informed that the seed was all produced on the spot, though it came originally from Woo-e-shun and ripened in the tenth month; that several were put into one hole, as the greater part were abortive; that the sprouts appeared in the third month; that the seeds were thrown into a hole four inches deep; that the leaves are plucked from the plant when three years old, and that there are four pluckings in the year. No manure is used, nor are the plants irrigated. Each shrub yields about the twelfth of a pound of tea annually. A *mow* of ground contains three hundred or four hundred plants. The tax on the land per mow is three hundred 'cash' (720 of which make a dollar.) The cultivation and gathering are performed by families, there being no rate of laborers' wages. The curing of the leaf, requiring skill, particular persons are employed at the rate of one dollar per picul of fresh, and five dollars per picul of dried tea. The fireplace and utensils are temporary. The leaves of the tea are heated and rolled seven or eight times. The green leaf yields one fifth its weight of dry tea. *The best tea brings on the spot twenty-three dollars per picul* (133 1-2 *lbs.*) The principal portion of the produce is consumed in the province, or exported in baskets to Formosa. The prevailing winds are N. W., but easterly winds only are injurious to the tea plants. Hoar frost is common in the winter months, and snow falls occasionally, though never over three inches; and it soon disappears. The plant never suffers from the cold, but thrives from ten to twenty years. Worms sometimes attack the pith of the old plants and destroy them. The plant is at its maximum of growth in seven years. The spots where it is grown are scattered over the country; and hills are not particularly appropriated to its culture. No ground is devoted to tea plantations that is fit for any thing else. The plant blossoms twice a year; once in the eighth month, and again in winter, but the latter is abortive.

The finances of the strangers becoming low, after some further interesting observations, a return was commenced. Though they had plenty of gold, it was of no use to them, as the people knew not its value, nor could it be exchanged for silver, at any price.

A plantation which was visited exhibited the plants about a foot in height, and so thickly grown that the hand could not be forced through them. They were likewise covered with leaves, three fourths of an inch in length. In the same bed were plants four feet high, less branchy, and with leaves two inches in length. The produce of the great and small plants was nearly equal. From one hill or group of plants to another was four feet, and these hills were about two feet in diameter. The plants were cultivated in beds, as in gardens, and each little plantation is surrounded by a low stone wall and a trench. These were generally selected between two hills. Some of them were observed seven hundred feet above the plain, but those lower were more productive. The best soil is but little better than sand. Each garden had a little nursery, where the plants were thickly growing about four or five inches high, and where the soil is a little more moist. The tea plant will no doubt be cultivated, ere long, in the United States. Already, indeed, has it been commenced.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THE ELEPHANT.

This animal deserves the attention he has received from the remote ages of antiquity. His great size, strength, sagacity, and the singular appendage called his trunk, or proboscis, which answers almost all the purposes of a hand, render him one of the most remarkable animals on the earth.

He was considered by the ancients a powerful engine in war, and is still regarded as an important part of an Eastern army, to be employed in the transportation of baggage, and heavy artillery. In processions for the display of Eastern magnificence he is still more indispensable.

The following were the dimensions of a full grown elephant, as measured in India. From the front of the face to the insertion of the tail, fifteen feet and eleven inches; from foot to foot over the shoulders, twenty-two feet, ten and a half inches; perpendicular height to the top of the shoulder, ten feet and six inches; perpendicular height to the top of the head when set up in order to march, twelve feet and two inches. There is, however, a considerable difference in the size of individuals, which sometimes vary in height from seven to twelve feet. The female is smaller than the male, and in the Asiatic species seldom exceeds eight feet. When the Elephant is less than seven feet in height, he is not considered to have sufficient strength to be serviceable, as the expense of his keeping would make his labor unprofitable.

A young Elephant, which, at birth, was two feet and eleven inches in height increased in successive years, eleven, eight, six, five, four, three and a half, and two and a half inches, so that at the end of seven years it was six feet and four inches high. The time of gestation for the female is five hundred and sixty-eight days or about eighteen and two thirds of a month. The young Elephant, which at birth appears to be of about the size of a large dog, does not complete its growth in less than eighteen or twenty years. It is impossible to ascertain the age to which they may arrive in their wild state, but in a state of confinement they have been known to live a hundred and thirty years; and it has been thought that, in their wild state, that they may probably complete their second century.

The skin of the Elephant, having on it but a few scattered hairs, is of a dark color, nearly black. But on the crown of the head, the hair is thicker, and about the length of a hog's bristle. Bishop Heber mentions a small kind of an Elephant in or near some parts of the Himaleh mountains which is covered with a shaggy coat of hair over the whole body. The head is somewhat small, in proportion to the size of the body. The forehead is remarkably prominent, and gives to the countenance an expression of dignity and intelligence. The eye is small, but quick and penetrating; the ears are large and pendulous, but capable of motion, and the back is considerably arched. The legs, which support this largest of all terrestrial animals, are thick, massy and strong. The foot is not separated into toes, but has short horny nails, which mark indentations and give the appearance of separate toes.

There are two species which are distinguished by the place of their native habitation, by the number of their toes, and the enamel of their teeth. The Asiatic Elephant has its scull longer than the other species, the forehead concave, the enamel of the grinders disposed in the form of flattened ovals placed across the tooth; ears not large, sometimes angular, horny nails, five before and four behind. The females of this species and some of the males have small and strait tusks. The hide is greyish, speckled with brown, and sometimes white. In the African Elephant the skull is rounded, the processes of the enamel forming a series of lozenges touching each other in the middle, ears very large, falling back and covering the shoulder; tusks longer than those of the other species, those of the male and female nearly alike, toes four before and three behind. The tusks of this species yield the best ivory, and those of a full grown male sometimes extend ten feet from the sockets. The teats of the Elephant are two, situated a short distance behind the fore legs. The tail is terminated with a few scattered and very thick black hairs. The Elephant has no cutting teeth in either jaw in front, but is furnished with large and powerful grinders, which enable him to bruise the vegetables on which he feeds. Each grinder is composed of a number of perpendicular laminæ, which may be considered as so many teeth, each covered by a strong enamel and joined to one another by a bony substance of the same quality as ivory. This last substance being much softer than the enamel wears away faster by the mastication of food, so that the enamel remains considerably above it, and in this manner the surface of each grinder acquires a ribbed appearance, as if originally formed with edges. The first set of grinders, or milk teeth, in the Asiatic Elephant begin to cut the jaw in eight or ten days after birth, those in the upper jaw appearing first. These are generally worn away during the time the second set are coming forward, and when the body of the grinder is nearly worn away, the fangs are gradually absorbed, but are not shed. From the end of the second to the beginning of the sixth year, the third set are coming gradually forward as the jaw lengthens, not only to fill up the additional space, but also to supply the place of the second set, which, during the same period, are gradually worn away and have their fangs absorbed. From the beginning of the sixth to the end of the ninth year, the fourth set of grinders come forward to supply the gradual waste and absorption of the third. In this manner to the end of life the teeth of the Elephant, becoming unfit for the mastication of food, are replaced by new sets.

The milk grinders consist of four teeth, or laminæ, the second set of grinders contain eight or nine, the third set ten or twelve, the fourth set fifteen, and so on to the seventh or eighth set, when each grinder consists of twenty-two or twenty-three, and it may be added that each set requires at least a year more than the preceding set, for its complete developement.

The tusks of the Elephant correspond with the canine teeth of other animals, and are to him most powerful instruments of defence as by means of them he can gore to death the enemies by which he may be attacked. The largest are from five to

ten feet long, from four to eight inches in diameter, and weigh from twenty to eighty pounds each. The increase of the tusks arises from circular layers of ivory supplied internally from the pulp on which they are formed. The first set called the milk tusks are temporary, and drop in twelve or sixteen months after birth, when they are succeeded by the permanent tusks which continue growing through life.

The cries of the Elephant are of three kinds. By the first, which is very shrill and caused by his trunk, he expresses his playful humor. The second is a low note produced by the mouth, and is expressive of hunger. The third is a violent roar, proceeding from the throat, and indicates irritation and rage.

In the structure of the Elephant, the most singular organ is the trunk or proboscis. This, which is an extension of the canals of the nose, is very long, composed of a great number of cartilaginous rings, and divided in the inside through its whole length. At the lower end it is furnished with a kind of moveable finger; and it is so strong as to be capable of breaking off large branches from trees. Through this the animal smells and breathes; and by means of it, he conveys food to his mouth. The sense of smelling the Elephant enjoys in such perfection, that if several people be standing around him, he will discover food in the pocket of any one present, and take it out by his proboscis with great dexterity. With this he can untie the knots of ropes, and open and shut gates by turning the keys or pushing back the bolts, and pick up even the smallest bodies from the ground. It is, in short, one of the most useful and extraordinary instruments that the wisdom of Providence has bestowed on any species of animal.

The disposition of these animals is gentle, and their manners are social, for they are seldom seen wandering alone. They generally march in troops, the oldest keeping foremost, and the next in age bringing up the rear. The young and the feeble occupy the middle. The mothers carry their young ones firmly embraced in their trunks. They do not however, observe this order, except in perilous marches, when they are desirous of pasturing on cultivated fields. In the deserts and forests, they travel with less caution, but without separating so far as to exceed the possibility of receiving assistance from one another.

The wild Elephants of Ceylon live in troops or families, distinct from all others, and seem to avoid the strange herds with particular care. When a family removes from place to place, the largest-tusked males place themselves at the head, and if they come to a river, they are the first to pass it. On arriving at the opposite bank, they try whether the landing-place is good; if it be, they give a signal with their trunk, when another division of the old Elephants swim over; the young then follow, holding one another by locking their trunks together; and the rest of the old ones bring up the rear.

The modes of taking this animal, and rendering it submissive to human authority, merit particular attention. At Tepura, in the East Indies, when the inhabitants are desirous of securing the wild male Elephants, they do it by means of Koomkees, or female Elephants, trained for the purpose. As the hunters know the places where the Elephants come out to feed, they advance towards them in the evening with four trained females. When the nights are dark, the objects of pursuit are discovered by the noise they make in cleaning their food, which they do by whisking and striking it against their fore-legs.

As soon as the hunters have determined on the animal they mean to secure, three of the trained females are conducted silently and slowly, at a little distance from each other, nearly to the place where he is feeding. The trained females advance cautiously, feeding as they go along. When the male perceives them approaching, if he takes the alarm, and is viciously inclined, he beats the ground with his trunk, and makes a noise, showing evident signs of displeasure. This, however, is not often the case; he generally allows them to approach, and sometimes even advances to meet them.

The drivers now conduct two of the females, one on each side of him; these close themselves gently against his neck and shoulders; the third female then comes up, and places herself across his tail. In this situation, far from suspecting any design against his liberty, he begins to toy with the females, and caresses them with his trunk. While thus engaged, the fourth female is brought near, attended by proper assistants, who immediately get under the body of the animal, and put a slight rope round his hind legs. If he takes no notice of this slight confinement, the hunters proceed to tie his legs with a stronger rope; which is passed alternately, by means of a forked stick, and a kind of hook, from one leg to the other, in the form of a figure of 8. Six or eight of these ropes are generally employed one above another; and they are fastened at their intersections by another rope, that is made to pass perpendicularly up and down. A strong cable, with a running noose, is next put round each hind leg, above the other ropes; and afterwards six or eight ropes are crossed from leg to leg above the cable. The fixing of these ropes usually occupies about twenty minutes, during which time the utmost silence is observed.

When thus secured, the animal is left to himself, the trained females retiring to a little distance. He attempts to follow them, but finding his legs tied, and, becoming sensible of the danger of his situation, he immediately retreats towards the jungle. The drivers, mounted on tame Elephants, and accompanied by several persons, who till this time have been kept out of sight, follow him at a little distance; and as soon as he passes near a tree sufficiently stout to hold him, they make a few turns, round the trunk of the trees, with the long cables which trailed behind him. His progress being thus stopped, he becomes furious, and exerts his utmost efforts to disengage himself. The trained females dare not now approach him; and, in his fury, he falls down on the earth, and tears it up with his tusks. When he has exhausted himself, the trained females are again brought near and take their former positions. After getting him nearer the tree, the people carry the ends of the long cables two or three times round it, so as to prevent the possibility

of his escape. His fore legs are now tied in the same manner as his hind legs were. The cables are made fast, one on each side, to trees or stakes driven deep into the earth; and he is subsequently fastened by means of other ropes, to two trained females, one on each side.

Every thing being now ready, and a passage being cleared from the jungle, all the ropes except one, are taken from his legs. The trained females pull him forward; sometimes, however, not without much struggling and violence on his part. When brought to his proper station, and made fast, he is treated with a mixture of severity and gentleness; and, generally, in a few months he becomes tractable, and appears perfectly reconciled to his fate. It seems somewhat extraordinary, that though the animal uses his utmost force to disengage himself when taken, and would kill any person who came within his reach, yet he seldom attempts to injure the females that have ensnared him; but, on the contrary, seems, as it were, consoled by them for the loss of his liberty.

The mode of securing a herd of wild Elephants is very different from that adopted in taking a single male, and the process is much more tedious.

When a herd of these animals, which generally consists of from forty to a hundred, is discovered, about five hundred people are employed to surround it. By means of fire and noises, they, in the course of some days, are able to drive them to the place where they are to be secured. This is called the Kedda. It consists of three enclosures, communicating with each other by means of narrow openings or gateways. The outer one is the largest, the middle generally the next in size, and the third or furthermost the smallest. When the animals arrive near the first enclosure, (the palisadoes and two gates of which are as much as possible disguised by branches of trees and bamboos being stuck in the ground, in order to have the appearance of a natural jungle,) great difficulty attends the business of getting them in. The leader always suspects some snare, and it is not without the utmost hesitation that he passes; but as soon as he enters, all the rest follow. Fires are now lighted round the greatest part of the enclosure, particularly at the entrance, and loud and discordant noises are made for the purpose of urging them on to the next enclosure. The Elephants find themselves entrapped, and discovering no opening except the entrance to the next enclosure, they at length pass it. The gate is instantly shut upon them, fires are lighted, and discordant noises are made as before, till they have passed through another gateway into the last enclosure, where they are secured in a similar manner. Being now completely surrounded, and perceiving no outlet through which they can escape, they appear desperate, and in their fury, advance frequently to the surrounding ditch, in order to break down the palisade, inflating their trunks, and screaming out aloud; but wherever they make an attack, they are opposed by lighted fires, and by the noise and triumphant shouts of the hunters. The ditch is then filled with water, and after a while they have recourse to it, in order to quench their thirst and cool themselves, which they do by drawing the water into their trunks, and then squirting it over every part of their bodies.

When the Elephants have continued in the enclosure a few days, where they are regularly, though scantily fed from a scaffold on the outside, the door of the roomee (an outlet about sixty feet long and very narrow) is opened, and one of the Elephants is enticed to enter by having food thrown before it. When the animal has advanced, the gate is shut and well secured on both sides. Finding his retreat now cut off, and the place so narrow that he cannot turn himself, he proceeds, and exerts his utmost efforts to break down the bars in front of him, running against them, screaming and roaring most violently, and battering them, like a ram, by repeated blows with his head, retreating and advancing with the utmost fury. In his rage he even rises, and leaps upon the bars with his fore-feet, striving to break them down with his weight. When he becomes fatigued with these exertions, ropes are, by degrees, put round him; and he is secured in a manner nearly similar to that adopted in taking the single males; and thus, in succession, they are all secured.

The Elephants are now separated, and each is given into the care of a keeper, who is appointed to attend and instruct him. Under this man there are three or four others, who assist in supplying food and water till the animal becomes sufficiently tractable to feed himself. In a few days the keeper advances cautiously to the side of the Elephant, and strokes and pats him with his hand, at the same time speaking to him in a soothing voice; and after a little while, the beast begins to know the keeper and obey his commands. By degrees the latter becomes familiar, and at length mounts upon the animal's back, from one of the tame Elephants. He gradually increases the intimacy, as the animal becomes more tame, till at last he is permitted to seat himself on his neck, from which place he is afterwards to regulate and direct all his motions. In five or six weeks the Elephant becomes obedient to his keeper; his fetters are by degrees taken off; and generally in about six months he will suffer himself to be conducted from place to place, with as much complacency as if he had been long subdued.

Some interesting anecdotes, shewing the gentleness, docility, sagacity and habits of this noble animal will probably be given in a future number.

METHOD OF IMPROVING UNRIPE CROPS OF CORN.

It is stated in the newspapers that Mr. Luther Davis, the last season harvested four acres of unripe corn, and after husking and cribbing it in his shop, thoroughly dried it in four days on the cob. It appears probable that by the use of fire, in unfavorable seasons, a considerable quantity of corn, which is often of little use, may be made quite valuable. In such seasons as the last, such a method must be of great importance to the farmer, whose expectations of a ripe crop are cut off by untimely frosts.

REMEDY FOR GALLS ON THE BACKS OF HORSES.

Major Long says that his party found white lead moistened with milk to succeed better than any thing else in preventing the bad effects of galls on their horses' backs.

IMPORTANCE OF THE CITY OF ST. LOUIS.

St. Louis is the most important place on the Mississippi river, above its junction with the Ohio.

The city of St. Louis is the great emporium of trade for all the country watered by the Upper Mississippi. It is the commercial mart for nearly the whole of Missouri, a large portion of Illinois, and parts of Arkansas and Michigan. It has an extensive and lucrative trade with the city of Santa Fe in Mexico, and with the numerous tribes of Indians who inhabit the country between the Mississippi and the Rocky mountains.

It has the organization, and the capital of a great commercial town. Steamboats arrive here daily from New Orleans, from Pittsburg, Cincinnati and Louisville; and from this place they ascend the Illinois to the rapids of that river, the Mississippi to St. Peters, and the Missouri to a distance of fifteen hundred miles above its mouth. Its commercial intercourse and relations extend from the Atlantic to the Rocky mountains, and from New Orleans to the northern boundary of the United States. The commerce and trade, therefore, of all this region, tends to and from St. Louis, and the roads and rivers which are most useful, are those by which merchandise may be carried to and from that city.

It is the great point to which a large majority of those who travel, west from the Ohio, direct their course. We allude to the ordinary travel of those who pass and repass the mountains on business, and not to the transit of emigrants; because the latter would diverge from the road in all directions, on reaching the States to which they remove.

The whole of the business of the Indian Department of the United States for an immense expanse of territory, is concentrated at St. Louis. The vast supplies of money and merchandise, sent annually to the Indian tribes, in the payment of annuities, and as presents, are forwarded from this place. This business forms so large an item in the national expenditure, as to render it an object, to afford to its transaction every facility, by which time, money, or labor may be economised.

TREATMENT OF THE INSANE.

Perhaps there is no subject in which more has been gained for the cause of humanity, since the commencement of the present century, than in the method of treating persons deprived of the use of reason.

Formerly, they were consigned to prisons, to dungeons, to chains, to darkness; left frequently to suffer from nakedness, cold, hunger, and an accumulation of filth; neglected, and deprived of all the comforts of society, with no refuge from their troubles but in death, with no means of exciting a single ray of hope for the present life, and without the ability of sustaining a rational view of the consolations of religion; they had the strongest claims upon our compassion.

We remember a man who was for years confined in a room, inaccessible to the public eye, but who contrived to make himself heard by those who passed near his cell. The civil authorities of the town took charge of the man, and of his property while any property remained; and after that was spent, he was kept alive for some time as a pauper. It was this man's constant habit with a loud voice to call over his roll, or list of his enemies, consisting of the most influential men in the place, and charge them with crimes of which his imagination made them the perpetrators. William A. G**, he would say, he is a murderer; A. C**, he is a robber; and so on to the end of the catalogue. This man, by judicious treatment, might probably have been restored. But the proper course of proceeding was not known.

'We have just heard, (says the Vermont Phœnix,) of a case now existing in this State. In an adjoining county is a young and astonishingly athletic man, who is insane. Being very mischievous, as the only safe course, his father constructed a block-house of logs, of considerable height, and near the roof left a small aperture to admit the light. Into this the unfortunate man was put, and here he has remained, summer and winter, for some time, receiving his food and drink through an aperture in the door, precisely like a criminal in a prison. Now, put this man into a well conducted institution for the insane, and three months, if not three weeks, would-in all probability, amply suffice to bring him to such a state as that not only would not chains and bars be required to restrain him from mischief, but he would delight to employ himself in some useful occupation.'

It is a discovery of recent times that the insane are very generally susceptible of gratitude, and capable of appreciating the kindness of those who will treat them with humanity. In fact, the exercise of the principle commanded in the second table of the decalogue 'thou shalt love thy neighbor as thyself,' and the judicious manifestation of such a disposition, appear to be almost always sufficient to calm the paroxysms of the most furious madmen, and often to restore them to reason, to society, and to happiness.

We consider it to be of great importance, that some just notions of the best method of managing insane persons, should be more generally diffused than they now are. With the hope of contributing to this object as well as to interest our readers, we give below an extract from the last report of the late lamented Dr. Thomas G. Lee, recently superintendent of the McLean Asylum at Charlestown, Massachusetts.

'Since the first of May, (now eight months,) there have been in the institution one hundred and thirty-six patients; there have been fifty-five admissions, and fifty-nine removals. Of the latter, six were by death, three not improved, three convalescent, and thirty-five recovered.'

'The system of moral management which we have adopted, is still successfully pursued. In addition to the means of diversion and occupation formerly named, the better class of patients are now invited once a week to a dancing party in the oval room; the evening is spent in dancing, marching, and cheerful conversation. The presence of all the officers, and as many of the nurses and attendants as can be spared from the wings, who engage with them in the amusements of the occasion, is security against any improper conduct or occurrence.

'We have also introduced religious service on the Sabbath, and have made arrangements by which we hope to continue it every other Sabbath during the present year. For eight months, from thirty to forty have daily attended on our family worship; and in no instance has there been any disturbance, nor have we known of any injurious effect; on the contrary, the influence has been highly salutary, and many, who have recovered, have spoken of these exercises, as having contributed to their restoration.'

'The following is a brief statement of our present system of occupation, diversion, and moral management:—The patients rise and dress about half an hour before breakfast, which is at sunrise in the winter, and six o'clock in the summer. After breakfast, they are taken out to walk, or to ride, or are engaged, so far as possible, in useful labor, as farming, sawing, splitting and piling wood, or assisting their attendants; and a few are engaged in mechanical employments. A large number are occupied, more or less, in the amusements of bowling, quoits, throwing the ring, and in checkers, chess, backgammon, and other games; and in the interval of these amusements, reading books from the library, newspapers, and writing, serve to fill up the time. After tea, they are assembled in the oval room, for family worship, which consists in reading a chapter from the Bible, singing two hymns, and a prayer. These are the occupations of the day. During the past summer, the bowling-alley building was fitted up for a shop by the patients, and we have yet to find some simple mechanical labor in which most can be engaged. This is highly desirable, and we do not despair of ultimate success.'

'Once a week, all the female patients who are well enough, assemble in the house, and spend an afternoon in sewing. While thus employed, some interesting book is read, or they are engaged in conversation, and are indulged in occasional relaxation and amusement. These stay to tea with the family; and to attend the 'Belknap Sewing Society,' is a privilege which nearly all are anxious to enjoy. The work for which they received pay the last quarter, amounted to sixteen dollars and thirty-nine cents; this and their future earnings they propose to appropriate for their own benefit, and that of those who may hereafter be members of this institution. The female members of our family have interested themselves to provide occupation and amusement for the female patients; they have visited the wing for this purpose, and to read to them interesting books; they have also, to some extent, engaged them in domestic labor.'

'I have already stated the weekly dancing parties, and the religious service on the Sabbath. These stated observances are of incalculable benefit to our patients; the mind is thus provided with something to fix upon, and to anticipate, and the labor of preparation is seen and heard for days in advance; the females in preparing their dresses, and both males and females in practising the figures of the dance. Many interesting and highly gratifying anecdotes might be mentioned in connection with these remarks, respecting our religious and social meetings, but it is unnecessary; the propriety and advantage of these things will appear at once to all. Our quiet and convalescent patients are also taken with us to church; to visit places of interest and amusement; are taken into our family, dine at our table, and sit in our parlors; they are made to feel, as far as possible, that, in coming here, they have only found a new home, new friends, new brothers and sisters; and that we are interested to promote their comfort, welfare, and happiness. In the location of patients, this object is constantly kept in view; and they are brought forward as fast as possible, and are deprived of privileges, and returned to the lower stories, only when they have proved by their conduct that they cannot exercise proper self-control. No punishment is in any case permitted, and the only measures which can be regarded as corrective, are, the deprivation of some accustomed privilege, change in location, and the occasional use of the shower-bath with the noisy and the filthy. Personal restraint is in no case made use of, except with those disposed to destroy clothing or other property; and with the furious to prevent injury to themselves or others; the number is always small who require any personal restraint.'

That suitable religious exercises have a most salutary influence on the minds of many insane persons there is abundant other evidence. We quote from the address of the Rev. Daniel Crosby, before the Prison Discipline Society in May, 1836.

'It has been my privilege repeatedly to address these unhappy sufferers, on the subject of religion, in their own distinct assembly. And never have I seen an instance, even in the case of those who were *very far from convalescence*, where the devotional services failed to induce a sense of propriety, and to call forth a degree of self-control and fixedness of attention, which, in the case of some individuals, was truly astonishing. But I have known cases where the individual, who, when in his own apartment, or in his daily intercourse with his fellow-patients, has appeared constantly excited, so as often to lose his self-control, and to suffer paroxysms of distress or passion, has sat with composure and perfect propriety during the performance of religious services. Deeply have I been affected to witness the fixedness of attention and the apparent satisfaction with which those, who never seem to enjoy any "spontaneous internal or mental government," have listened to cheerful and consoling views of religious truth. Without the least allusion to their peculiar situation in the discourse, and probably without any very correct or consistent views on their part, there still seemed to be awakened in their minds the pleasing conviction, that in the truths declared, there was hope for the desponding, and consolation for the sufferer. I have known cases where the individual who, in other circumstances, was usually noisy, and sometimes suffering paroxysms of distress, has appeared to feel at once the solemn and softening influence of devotion, and has been known to reprove a fellow-worshipper for a want of propriety during the service. Indeed, cases have been known, where individuals in a very weak and debilitated state, have expressed the happiness they experienced in listening to the truths presented, and have appeared to carry with them from the worship of God, a salutary influence, which has assisted

them in self-control, for hours, and even for days; quite as long as, in many cases, the serious influences of the sanctuary remain on healthier minds.'

The following extract of a letter written in a lucid interval by a lunatic, in the Glasgow Asylum, in Scotland, may also be received as evidence that religious influences may be highly beneficial even to the insane.

'First, then, let me tell you that I never have complained, and I trust in my Savior that I never shall complain, of God's procedure in His dispensation towards me. I can trust Him even in the darkest hour; and through the blackness, and the darkness, and the thunder, and the tempest, in which I have been enveloped, His wisdom, His love, and His faithfulness, have been displayed in such a manner, as to make me wonder how I, a man of the dust, should have been so upheld, so comforted, and so defended from men who have been *His hand* to buffet me.'

WAVES, AND NAVIGATION OF CANALS.

At a recent meeting of the British Association for the Promotion of Science, a discussion was held upon the subject of the application of our knowledge of the phenomena of waves to the improvement of the navigation of canals and shallow rivers.

Mr. Russell stated, that in the course of his experiments on the subject, he had observed four principal classes of waves, obeying different laws; first, the simple ripple, which is not propagated beyond the point of generation; second, oscilatory waves, such as are produced by a stone dropped into the water,—these are propagated with a velocity proportioned to the magnitude of the fluid displaced; third, waves having a broken top called surges; fourth, the single solitary wave, which is propagated with nearly a uniform velocity. The two last classes, are those which he has principally investigated.

According to his observations, it might be considered; first, that whenever any addition is made to a quiescent fluid an elevation is propagated along the surface, with a velocity equal to that which would be acquired by falling through half the depth of the fluid; second, that the height of any such wave is to be added to the depth, in order that the above law may accurately express the velocity; third, that the length of the wave is clearly connected with the depth of the fluid; fourth, that it varies with the height; fifth, that when the height of the wave is nearly equal to the depth of the quiescent fluid, the wave breaks; sixth, that the elevation of surges, or waves, and also the formation of a tide bore may be explained by a canal of a variable depth; seventh, the phenomena of extremely high tides, sometimes observed in narrow rivers and channels, are similar to those of waves in a canal, which gradually diminishes in breadth.

The result of various experiments made by him had confirmed the law of Sir Isaac Newton, that the resistance of water to the passage of bodies through it, was in proportion to the square of the velocity. The difference of resistance between a horse drawing a vessel trotting and cantering was as 108 to 136. He had made a table of resistance at different velocities, which was the result of 2400 experiments. In vessels moving with a velocity of

4 miles an hour the resistance was	33 lbs.
6	91
7 1-2	265
8 1-2	215
9	235
11	246
12	353
13	444

but at a velocity of 20 miles an hour the vessel apparently skaited along the surface of the water, and the resistance was very trifling. It would be observed that at eight and a half miles an hour, the resistance was not so great as at seven or nine.

When a vessel was propelled with a certain velocity, it had the effect of giving an impetus to the water, and produced a wave varying according to the mass of water, and he had followed such a wave, after the vessel stopped, more than a mile and a half. The velocity of the wave was uniform, and independent of the velocity of the vessel; for if a vessel was moving at the rate of four miles an hour, the wave would move at the rate of eight miles; and he had seen a large wave overtake a small one and pass it. Waves never exceeded in height the depth of the quiescent water. If the velocity of a vessel did not exceed eight miles an hour, it did not divide the water, but pushed it forward in the shape of a wave; but at a greater velocity the water was divided. It was possible to increase the velocity and get upon the wave, and then the resistance was nothing.

Where a canal had a depth of three feet there might be a velocity of six miles an hour—five feet nine miles; nine feet, eleven miles. So that the greater the depth of the water, the greater velocity might be attained. Beyond eleven miles an hour there would be a high velocity, and comparatively little resistance.

Where it was intended the distance should be great, he recommended rectangular canals. To make canals wide by sloping the banks was an evil.

One important element in experiments like those of Mr. Russell is the shape of the boat or vessel. Of this we have no account in Mr. Russell's experiments as above detailed; but still his remarks and the result of his experiments appear to be important.

SEVERE WEATHER.

Accounts from various parts of the north of Europe, show that there had been indications of an early and severe winter. At Christiana very afflicting news had been received from Norway and various places in the north, of a general failure of the crops, and a general famine was apprehended for the poor of those countries. A letter from Sandmaer, dated September 24, says that the snow had not ceased to fall for five days, and the ground was covered in divers places to the depth of two feet. Much grain which remained in the fields was covered with snow. Similar intelligence was received from Helgeland and other places not only in the north, but in the south of Norway.

THE LONDON UNIVERSITY.

The London university was founded in 1825. In consequence of opposition from the friends of the other universities, at Cambridge and Oxford, it is not a chartered institution. Its course of instruction comprehends languages, mathematics, physics, ethics, law, history, political economy, and medical science. Instruction is communicated by public lectures, and examinations by the professors.

The central part of the building extends 400 feet in length, and 200 in depth. The front, on Gower street, is a handsome facade, adorned with the noblest portico in London, of twelve Corinthian columns, ascended by a flight of steps, surmounted by a dome and lantern.

On the principal floor is a spacious examination hall, a museum of natural history, a museum of anatomy, professors' apartments, a grand library room, 120 feet by 50, and a smaller library room, forty-one feet by twenty-two; and at each end is a semicircular theatre for lectures, sixty-five feet by fifty. The ground floor is divided into lecture rooms, cloisters, two theatres, a chemical labaratory, museum, offices, and council room. The number of students in 1829 was 680.

EDUCATION IN MASSACHUSETTS.

The Secretary of the Commonwealth, John P. Bigelow, Esq. has prepared for the use of the Legislature an abstract of the School Returns for the last year, with a copy of which he has politely furnished us. The abstract has been made with the greatest care and fidelity, and presents all the information possible on the subject.

In the city of Boston, the average number of children attending the common schools between four and sixteen years of age, is 8847. The average number attending private schools is 4000. Number of Instructers of common schools, male and female, 144. Amount raised by taxes for support of common schools, $88,000. Estimated amount paid for tuition in private schools $100,000.

In 289 towns in the Commonwealth, from which returns have been made to the Secretary of State, the number of children between 4 and 16 years of age, is 166,912. Of these 146,539 attend school. There are 2154 male and 2816 female Instructers.

The amount raised by tax for the support of common schools, for the year past, was $391,994. The amount raised by voluntary contributions to support common schools, was $47,593. The estimated amount paid for tuition in private schools and academies, was $326,652—and the whole amount raised during the year in 289 towns and cities, for the support of common schools, and tuition in private schools and academies, was $726,230.—*Atlas*

Wm. Penn's ideas of Education.—'That which makes a good constitution must keep it, viz. men of wisdom and virtue; and these are qualities that, because they descend not with worldly inheritance must be carefully propagated by the virtuous education of youth.'

FISHER AMES.

We have before given a sketch of the life of this distinguished orator and statesman, which will be found on the 273d page of our second volume.

We propose to add a few remarks, with a short extract from his eulogy on Washington, as a specimen of his style.

Among the ancestors of Mr. Ames was the Rev. William Ames, an eminent English theologian, author of the *Medulla Theologiæ*, and several controversial tracts. He left Christ's college, Cambridge, in England, to prevent an expulsion for the too strenuous assertion of Calvinistic principles. Having gone abroad, he was chosen by the states of Friesland, a professor in their university. He had determined to emigrate to New England, but was prevented by death in 1633. The father of Mr. Ames was Dr. Nathaniel Ames, a physician, and the son of a physician, a man of skill in his profession, and noted for the acuteness of his wit, his great activity, and for his knowledge of natural philosophy, astronomy and mathematics. His death occurred in 1764. His son, Fisher, was the youngest of five children, and having been born on the 9th of April, 1758, was only six years old at the time of his father's death. For his education he was principally indebted to the care of an affectionate mother. He first became known to the public as a political essayist. Several pieces written on the occasion of the insurrection in Massachusetts, generally known as Shays' rebellion, were pronounced to be the efforts of no common mind.

A great part of his works which are now extant, consist likewise of political essays, to which we would refer such of our readers as may, at some future time, desire to know what sort of men they were, who were formerly called *Federalists*.

Mr. Ames, like all the other distinguished public men of his day, was a partisan, but although in some things he may have fallen into error, those who make themselves acquainted with him will acknowledge him to have been a patriot.

His health, for a great portion of the latter part of his life, was insufficient to enable him to make those exertions which would probably have been called for in stations of greater political importance than those which he filled; but no station could have added to the estimation in which he was held by all who knew his worth. A collection of his essays and speeches was published at Boston, 1809. To the candid reader they will shew him to have been no less a friend to his country, and no less eminent as a patriot than the most fortunate of his more successful opponents. His eulogy on Washington was delivered at the request of the legislature of Massachusetts, Feb. 8th, 1800. The extract will show what he thought of the man whose memory, more than that of any other, Americans, in the United States, delight to honor.

'It is not impossible, that some will affect to consider the honors paid to this great patriot by the nation, as excessive, idolatrous, and degrading to freemen, who are all equal. I answer, that refusing to virtue its legitimate honors would not prevent their being lavished, in future, on any worthless and ambitious favorite. If this day's example should have its natural effect, it will be salutary. Let such honors be so conferred only when, in future, they shall be so merited: then the public sentiment will not be misled, nor the principles of a just equality corrupted. The best evidence of reputation is a man's whole life. We have now, alas! all Washington's before us.'

'It requires thought and study to understand the true ground of the superiority of his character over many others, whom he resembled in the principles of action, and even in the manner of acting. But perhaps he excels all the great men that ever lived, in the steadiness of his adherence to his maxims of life, and in the uniformity of all his conduct to the same maxims. These maxims, though wise, were yet not so remarkable for their wisdom, as for their authority over his life: for if there were any errors in his judgment, (and he discovered as few as any man) we know of no blemishes in his virtue.'

'More than once he put his fame at hazard, when he had reason to think it would be sacrificed, at least in this age. Two instances cannot be denied: when the army was disbanded; and again, when he stood like Leonidas at the pass of Thermopylæ, to defend our independence against France.'

'His pre-eminence is not so much to be seen in the display of any one virtue, as in the possession of them all, and in the practice of the most difficult. Hereafter, therefore, his character must be studied before it will be striking; and then it will be admitted as a model, a precious one, to a free republic!'

'It is no less difficult to speak of his talents. His great modesty and reserve would have concealed them, if great occasions had not called them forth; and then, as he never spoke from the affectation to shine, nor acted from any sinister motives, it is from their effects only, that we are to judge of their greatness and extent. In public trusts, where men, acting conspicuously, are cau-

tious, and in those private concerns, where few conceal or resist their weaknesses, Washington was uniformly great, pursuing right conduct from right maxims.'

'This command over the partialities that so generally stop men short, or turn them aside in their pursuit of truth, is one of the chief causes of his unvaried course of right conduct in so many difficult scenes, where every human actor must be presumed to err. If he had strong passions, he had learned to subdue them, and to be moderate and mild. If he had weaknesses, he concealed them, which is rare; and excluded them from the government of his temper and conduct, which is still more rare.'

'The unambitious life of Washington, declining fame, yet courted by it, seemed, like the Ohio, to choose its long way through solitudes, diffusing fertility; or like his own Potomac, widening and deepening his channel, as he approaches the sea, and displaying most the usefulness and serenity of his greatness toward the end of his course.'

'However his military fame may excite the wonder of mankind, it is chiefly by his civil magistracy, that his example will instruct them. Great generals have arisen in all ages of the world, and perhaps most in those of despotism and darkness. In times of violence and convulsion, they rise, by the force of the whirlwind, high enough to ride in it, and direct the storm. Like meteors, they glare on the black clouds with a splendor, that, while it dazzles and terrifies, makes nothing visible but the darkness. The fame of heroes is indeed growing vulgar: they multiply in every long war; they stand in history, and thicken in their ranks, almost as undistinguished as their own soldiers.'

'But such a chief magistrate as Washington, appears like the pole-star in a clear sky, to direct the skilful statesman. His presidency will form an epoch, and be distinguished as the age of Washington.

NATURAL VINEYARD IN THE WEST.

On the north-east of the Canadian, a river of the west, which empties into the Arkansas, there are ranges of low sand-hills, fringed with vines, rising not more than a foot or eighteen inches from the surface. These hillocks have been produced exclusively by the agency of the grape vines arresting the sand as it was borne along by the wind, till such quantities had been accumulated as to bury every part of the plant except the ends of the branches. These branches are sometimes so loaded with fruit as to present nothing to the eye but a series of clusters, so closely arranged as to bury every part of the stem.

The fruit of these vines has been said by travellers to be incomparably finer than that of any other, either native or exotic, which they have ever met with in the United States. The burying a great part of the trunk, with its larger branches seems to produce an effect similar to that of pruning. The unfolding of the leaves and flowers, on the parts below the surface, is thus prevented, while the protruding ends of the branches enjoy an increased degree of light and heat by reflection from the sand. The same kind of vines in ordinary circumstances yield grapes much less abundant in quantity, and much inferior in flavor.

The treatment of nature, here employed to bring the fruit of the vine to perfection, may be imitated by artificial works; but without the same peculiarities of soil and exposure, it would be very difficult to carry it to the same magnificent extent. Here are hundreds of acres covered with a surface of moveable sand, and abounding in vines, placed, by the agency of the sun and winds in more favorable circumstances for the production of delicious fruit, than it is in the power of man to afford, over so great a space of ground.

ANECDOTE OF GENERAL PUTNAM.

During the French war, when the British commander, General Amherst, was marching across the country to Canada, the army coming to one of the lakes, which they were obliged to pass, found the French had an armed vessel of twelve guns upon it. The General was in great trouble; his boats were no match for her, and if his men were embarked in them, that single ship might easily sink the whole of them. While he was pondering on the course to be pursued, Putnam came to him and said, '*General, that ship must be taken.*' 'Aye,' says Amherst, 'I would give the world she were taken.' 'I'll take her,' says Putnam, 'if you'll give me leave.' Amherst smiled, and asked, how? 'Give me,' says Putnam, 'a beetle, (a large wooden maul, or hammer) and some wedges, and a few men of my own choice.' General Amherst could not understand Putnam's method of taking armed ships with a beetle and wedges, but thought proper to grant him what he required. At night Putnam put his men, and his beetle and wedges, on board of a boat; then, passing silently under the stern of the vessel, in a moment drove his wedges in the little cavity between the rudder and the stern, and made his escape. In the morning, the ship, being found adrift in the middle of the lake, with her sails fluttering entirely unmanageable, was presently blown ashore and easily taken.

LEGAL PROVISIONS AGAINST INTEMPERANCE IN PENNSYLVANIA.

We make the following extracts from a Charge delivered to the Grand Jury, of the Recorder's Court, Northern Liberties, Kensington and Spring Garden, Philadelphia, by Robert F. Conrad. It was published in pursuance of a resolve, then unanimously passed by the Grand Jury at its organization for jury trials, on the 1st of Nov. 1836.

After referring to the various classes of crimes that they would be called upon to investigate, the Recorder thus speaks of the vice of intemperance, to which he principally ascribes all the other crimes committed:—

'The influence of this vice upon our individual happiness and natural destinies is so great, that every available engine should be directed against it. Much has, it is true, been effected. The pulpit, the press, and the omnipotent lever of associated effort, have greatly lessened its baneful empire Still much remains to be done. The law has not

been regardless of this important point. Intemperance was punished by the English law, as early as the reign of James I. and in this commonwealth, our first legislators,—men whose labors are the pride of our statute books,—inflicted a penalty for intoxication. These views should, and will, be enforced by the exercise of every power which the law has placed in our hands for the discouragement of vice.

While the ravages of intemperance have been checked in one direction, it is feared that they have been extended in another. I refer to the increase of this vice among intelligent and respectable young men. Thus, while the disease has been driven from the extremities of society, it has fastened on the heart. Every observant citizen must have seen with regret, the multiplication of splendid drinking establishments in imitation of the gin palaces of London. In many of these, the fatal appetite for stimulating poisons may be indulged quietly and under other pretexts; they have therefore become fashionable places of resort, particularly for the youthful. It is perhaps the worst symptom of popular demoralization, when it assails the rising generation, when the moral *virus* infects unseen, and the most dangerous habits are practised under advantages which screen the offender and victim from reproach.

The unnecessary multiplication of taverns, beyond all question, increases the temptation to intemperance. Competition in any business excites an activity, artfulness and diligence on the part of the vender, which increases the consumption of the article sold. Where the competition is great, the innkeeper is obliged to resort to art to win customers. The passer by is wooed to the cup, and every means is used to persuade him to renew his dangerous enjoyments. The evils arising from the multiplication of taverns were appreciated at an early period in the history of our State. The license power was originally vested with the proprietary, and being a source of revenue, was used with a freedom which provoked the most determined opposition from the Council. In 1685 the Council revoked all licenses. In 1781 the power of granting licenses was transferred to the courts, where it has continued to the present time. The most rigid police arrangements were made about this time for the regulation of taverns; and every innkeeper was obliged to report to the next magistrate the arrival of every stranger at his house. Various improper practices were prohibited; and no liquor was allowed to be sold to negroes, Indians or minors, nor more than five penny worth to sailors. In 1721, more than a century ago, a public meeting was held in this city to prevent the sale of spirituous liquors; and as late as 1776, there were but 117 licensed houses in the city and county.

In 1834 the legislature of our State remodeled the license system and established several wholesome, but we fear inadequate, restrictions. By that law it is enacted that no court shall license any tavern which shall not be necessary to accommodate the public and entertain strangers and travellers; the application must be sustained by a certificate, signed by at least twelve respectable citizens of the ward, setting forth that it answers the description, and that the applicant is a man of good repute for temperance and honesty. It prohibits the granting of license to any theatre or circus, or house which communicates with one; and provides for the punishment of every innkeeper who does not keep good accommodation for man or horse. It prohibits *all* games of address or hazard, cock-fighting, bullet-playing or horse-racing, on pain of a heavy fine, and forfeiture of license. It enacts that no innkeeper shall entertain any apprentice, servant or minor, or give trust or credit to any person whatever; and denounces severe penalties against all who sell liquor by less measure than a quart without license. I have dwelt thus minutely on the provisions of this act, in order to give additional publicity to its requirements, and take this occasion to state, that the court will rigidly enforce the law.

The power given the court of regulating the licenses, is one which demands, in its exercise, great prudence and care. The law points the court to the wishes of the neighborhood as a guide, but should we rely upon this evidence, scarce an application would be rejected; for our citizens, from what is considered an amiable, but is in truth an unworthy weakness, lend their names freely to petitions for licenses, and afterwards wonder that their own requests are gratified, or their own representations believed. It is recommended, that our citizens yield their signature in *no* case where a tavern is not imperatively demanded for the public accommodation.

There are others, who, in their zeal, expect all or nearly all applications for license to be rejected, and the system prostrated at once. It is apprehended that a policy so violent would—without diminishing in the slightest degree the sale or consumption of liquor—change nearly every tavern into a tippling shop. The great difficulty hitherto experienced has been, that when the hand of the courts pressed too heavily upon licensed taverns, the evil has arisen in another direction, and in another shape —that of unlicensed houses for the sale of liquor. The latter is an evil of the most serious character. The tippling shop pays no tax to the State, and can therefore afford to sell its poisons cheaper. Its business is carried on in secrecy—it is not in most cases open to the eye, or accessible to the arm of justice. The law is mocked at in these secret dens. Gambling, drunkenness and debauchery hold their orgies there unchecked. There, the rioter and the pilferer resort; and there, too, the regular depredators on society, concert their operations and conceal their spoil. Of the number of tippling shops in these districts it is impossible to speak with confidence; but we have reason to believe that they are numerous, and are the cause of much of the existing intemperance and disorder.

A number of indictments for tippling shops will be laid before you. Every exertion will be made to obtain the requisite information, and break up these lawless establishments. It is the duty of every good citizen who is acquainted with a case of the violation of the laws, in relation to this offence, to give information to a neighboring magistrate. This course, if generally adopted, would result in the extirpation of this wide spread evil. It is to be

regretted that more efficient means are not provided by law for the detection and punishment of the keepers of tippling shops. The evil is of a magnitude that would justify an increase of police adequate to its correction.'

DIPLOMATIC MISSION TO THE NORTH WESTERN INDIANS IN 1793.

The effect of the charters of the British colonies, and of the treaty of peace between Great Britain and the United States, upon the right of soil and jurisdiction over lands inhabited by Indians, has been recently a subject of debate. The light in which this subject was viewed in 1793, is plainly expressed in a speech addressed to the Indians assembled to meet the commissioners of the United States at the foot of the Miami rapids.

The Indians required to have the Ohio river fixed upon as the northern boundary of the white settlements. The commissioners declined this, but offered to pay for the lands north of the Ohio, which might be included within the boundary that might be agreed upon, and proceeded further as follows:

'Brothers,

'Here you see a concession, [alluding to the offer to pay for lands north of the Ohio,] which we are willing to make on the part of the United States. Now listen to another, of a claim which has probably disturbed your minds more than any other whatever.

'Brothers,

'The commissioners of the United States formerly set up a claim to your whole country southward of the great lakes, as the property of the United States, grounding their claim on the treaty of peace with your father the king of Great Britain, who declared, as we have before mentioned, the middle of those lakes, and the waters which unite them to be the boundaries of the United States.

Brothers,

'We are determined that our whole conduct shall be marked by openness and sincerity. We therefore frankly tell you that we think those commissioners put an erroneous construction on that part of our treaty with the king. As he had not purchased the country of you, of course he could not give it away. He only relinquished to the United States, his claim to it. That claim was founded on a right acquired by treaty with other white nations, to exclude them from purchasing or settling in any part of your country; and it is the right which the king granted to the United States. Before that grant the king alone had had a right to purchase of the Indian nations any of their lands between the great lakes, the Ohio and the Mississippi, excepting the part claimed to have been within the charter boundaries of Pennsylvania [previously sold by the Indians] and the king by the treaty of peace having granted this right to the United States, they alone have now the right of purchasing. So that now neither the king nor any of his people have any right to interfere, in any respect with any part of those lands. All your brothers, the English, know this to be true; and it agrees with the declaration of Lord Dorchester at Quebec two years ago.

'Brothers,

'We concede this great point. We, by the express authority of the President of the United States, acknowledge, the property or right of soil of the great country above described to be in the Indian nations, so long as they desire to occupy the same. We only claim particular tracts in it as before mentioned, and the general right granted by the king as above stated, and which is well known to the English and Americans, and called the right of pre-emption, or the right of purchasing of the Indian nations disposed to sell their lands, to the exclusion of all other white people whatever.'

The commissioners who delivered this speech were Benjamin Lincoln, Beverly Randolph, and Timothy Pickering, appointed by General Washington. It was addressed to the Wyandots, Delawares, Shawnese, Miamis, Mingoes, Potawatamies, Ottowas, Connoys, Chippeways, and Munsees. The speech was dated July 31, 1793.

The portion of Lord Dorchester's speech alluded to is as follows:

'Brothers,

'You have told me, there were people who say that the king your father, when he made peace, and gave independence to the United States, gave away your lands. Brothers, I cannot think the government of the United States would hold that language. It must come from ill-informed individuals.

'Brothers,

'You well know that no man can give what is not his own. When the king made peace, he made a treaty in which he marked out a line between them and him. This implies no more than that beyond this line he would not extend his interference.

'Brothers,

'The king's rights respecting your territory were against the nations of Europe; these he resigned to the United States. But the king never had any rights against you but to such parts of the country as had been fairly ceded by yourselves, with your own free consent, by public convention and sale. How then can it be said he gave away your lands? So careful was the king of your interest, so fully sensible of your rights, that he would not suffer his own people to buy your lands without being sure of your own free consent, and of ample justice being done you. He therefore ordered General Sir William Johnson, the father of your friend, to be present at all treaties between you and his colonial governments, to see that you were fairly dealt with. Bargains with private individuals were forbidden and considered as void.

'Brothers,

'When the king your father discovered that notwithstanding his care there had been encroachments upon your lands by some of his people, that you were made uneasy and had reason to complain, what did he do? He called the leading people of those colonies, between whom and you the difference had arisen, together, to meet your nations at fort Stanwick, to settle the dispute, and to fix a final boundary.

'Now, brothers, say, is it possible so good a father could ever mean to give away your lands, which he had no right to do? Certainly he never did it; he never meant it.'

This speech was delivered to the confederated nations of Indians, to wit, the Ottawas, Chippeways, Potawatamies, Hurons, Shawnese, Delawares, Tusturs, and the Six Nations, on the 15th day of August, 1791.

On the 1st of August, 1793, the Indians gave a speech in reply to that of the American commissioners, in which they insist on the Ohio as the boundary, say that they cannot give up their lands, that they will talk to their head warriors, and the commissioners 'may return whence they came, and tell Washington.'

They however consented to consider further on the subject, and on the 16th of August gave another speech, in which they say as follows:

Brothers,

'You make one concession to us by offering to us your money, and another by having agreed to do us justice, after having long and injuriously withheld it; we mean in the acknowledgement you have now made that the king of England never did, nor ever had the right to give you our country by the treaty of peace.

'Brothers,

'You have talked a great deal about pre-emption and your exclusive right to purchase Indian lands, as ceded to you by the king at the treaty of peace.

'Brothers,

'We never made any agreement with the king nor with any other nation, that we would give to either the exclusive right to purchase our lands; and we declare to you that we consider ourselves free to make any bargain or cession of lands whenever, and to whomsoever we please. If the white people, as you say, made a treaty that none of them but the king should purchase of us and he has given that right to the United States, it is an affair which concerns you and him, and not us; we have never parted with such a power.

'We desire you to consider, brothers, that our only demand is the peaceable possession of a small part of our once great country. Look back and view the lands from whence we have been driven to this spot. We can retreat no further, because the country behind us hardly affords food for its present inhabitants; and we have resolved to leave our bones in this small space to which we are now consigned.'

In this speech they appear to have been joined by the seven nations of Canada, the Senecas of the Glaise, the Nanticokes, the Mohegans, the Messasaugas, the Creeks and the Cherokees. The attempt to obtain a treaty at this time was unsuccessful.

BITUMINOUS COAL.

The consumption of bituminous coal, from foreign parts, is increasing in many of the principal towns, along the sea-coast of North America. This is very much to be regretted. Bituminous coal yields an immense quantity of soot and smoke, which clog up the flues and chimneys, pervade the whole air and may almost be seen settling down upon the roofs of the buildings and about the houses of those cities where such coal is used in large quantities; while at the same time, the soot or smoke comes out into the rooms, penetrates among the furniture, adheres to the paper and hangings, lodges on and discolors the linen and apparel of the inhabitants, and actually taints with its odour the very food upon which they live. An atmosphere filled with the smoke or soot of this soft coal, is also not only offensive to the smell, but injurious to the health of the delicate, if not of the strong, and invariably imparts, in a greater or less degree, a sallowness and sickly hue to the skin of all. Nothing is more destructive to the complexions of the beautiful and fair. Besides, it renders the water collected from the house-tops, thick and impure, and altogether unfit for every culinary or domestic purpose. The best fuel in the world is our own anthracite. It is less expensive as well as more healthful than any other coal—especially if water be present in proper vessels, upon the stoves or fire-places where it is burnt. It makes a solid, clear, and cheerful fire, renders an equal heat, gives out neither smoke nor soot, and above all does not require that frequent, not to say, almost continual replenishing, which is so indispensably necessary and so annoying wherever bituminous coal is employed. Give us a good substantial fire of our own hard, *American anthracite:* we wish to have nothing to do with your smoky, sooty, soft, foreign coal.

MODE OF PREVENTING DRY ROT AND MILDEW IN VEGETABLES.

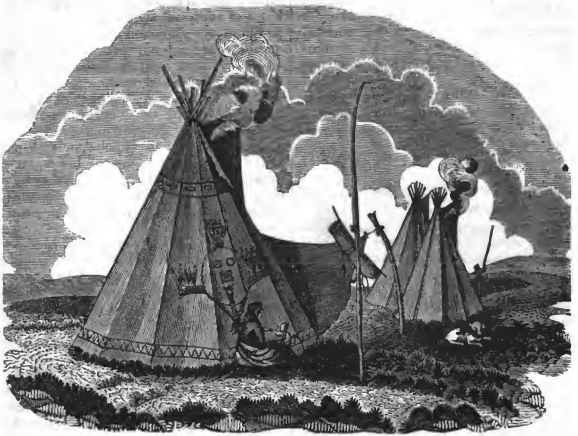
An Englishman, whose name is Kyon, has patented a method of preparing timber, canvass, cordage, &c. by means of corrosive sublimate, in such a manner as to prevent the effects of the usual causes of decay arising from moisture. It is stated that the vegetable principle by means of which the moisture is usually enabled to effect the decomposition and destruction of such articles is destroyed, without injury to the fibres of the material. It is useful in preventing the dry rot in timber, and mildew in canvass and cordage. By means of it various kinds of timber, generally of little value on account of its want of durability, are made so durable as to be of very great value. The preparation consists in steeping the article in a prepared solution of the sublimate.

COLOGNE WATER.

Our female readers, who are disposed to practise a little domestic economy, will find the following preparation of Cologne water a very cheap substitute for the Cologne water of the shops, for which they pay three or four hundred per cent. more than the cost of this.

To one quart of alcohol add sixty drops of lavender, sixty drops of bergamot, sixty drops of essence of lemon, and sixty drops of orange water. To one gallon of alcohol, put 240 drops of each of the perfumes.

We do not recommend the use of Cologne water, but merely that those who think they must use it should buy the ingredients, and mix them themselves.



[Moveable Indian Lodges.]

MOVEABLE SKIN LODGES OF THE KASKIAS.

The Kaskias are a tribe of Indians inhabiting the country west of the United States, about the sources of the Rio del Norte, the Platte and the Arkansas rivers. They are a wandering race, living entirely by hunting, and never build permanent habitations. Their hunting excursions are sometimes extended to the south, as far as the Brassis, and the Colorado of Texas. In these excursions the whole band travel on horseback; every squaw takes several horses under her care, which she drives before her; some of them carrying children, some dragging poles, from twenty to thirty feet in length, for the construction of the lodges; and others loaded, after a successful hunt, with packs of meat. Sometimes, when a child is too young to be able to sit on a horse by his own strength, he is lashed to a rude saddle by the legs, and thus rides on with the rest. They constantly carry with them water vessels, made of the stomach or bladder of a buffalo, which they fill when they have occasion to ford a stream, and at the place of their encampments hang them on a little tripod, consisting of three sticks, fastened together at the top, and spread apart at the bottom.

The place of encampment is often chosen on the banks of a river, or near some smaller stream or fountain of water, and after hanging up their water vessels, the women go to work to construct the lodges. For this purpose they take four poles, the shortest which are to be used in the construction of a single lodge; and the smallest ends being fastened together with a thong, are raised to a convenient height, and the larger ends being spread apart on the ground, they have only to add from two to four poles more to complete the frame-work of the lodge. One corner of the skin covering, which they likewise carry with them, is fastened at a proper place on the pole, which is to be last raised; and after raising it, the covering is carried round and spread upon the poles with very little difficulty. The bottoms of the poles are placed nearly in a circle, and the lodge when completed forms a tall, conical structure, of sufficient capacity for the accommodation of five or six persons. At the top there is an opening, out of which the poles project to some distance, crossing each other at the point where the four shortest are tied together. This opening answers the purposes of both a chimney and a window, letting in the light, and letting out the smoke of the fire, which is kindled in the centre. If they wish to make the lodge larger than ordinary, the skin is raised higher on the poles, the bottoms set farther apart, and the space between the skin and the ground filled with branches of trees.

Near the aperture at the top there is a small triangular wing, which serves to guard the aperture from the wind, by which the ascent of the smoke might otherwise be prevented.

The covering of the lodges is often painted, with some degree of skill, in blue and red colors, with figures, which to some would appear rude and uncouth, but which, in the view of the Indian, are doubtless, beautiful decorations.

The poles necessary for the construction of these lodges are not produced in any part of the country inhabited by the Kaskias, but are purchased from the Indians of the Missouri, or others inhabiting lands more plentifully supplied with timber. Though these wandering tribes have no other habitation than these lodges covered with skins, such structures are far less comfortable, especially in winter, than the spacious cabins built of mud by other tribes, of less roving habits.

It is, however a matter of surprise to the travel-

ler, who may happen to be present, to observe how quickly, by the labor of the women, working in perfect silence and order, the place of their encampment will be covered with these tall conical tents, affording the tribe all the accommodations they desire.

Most of the nomadic tribes of the eastern continent have been shepherds; but this is an occupation which does not appear to have ever been thought of by the aborigines of this country.

IMPROVEMENT IN FIRE ARMS,

By John W. Cochran.

The recent improvements in fire arms by this young American, whose name is already familiar to military men throughout Europe and America, bids fair to introduce important alterations into the art of war. If the consequences of such improvements would probably be to make wars more destructive, or to induce nations to engage in them with less reluctance, we should wish for no improvements. But the tendency of all improvements of this nature, is to make nations more cautious in commencing a war and also in carrying it on.

The effect of the invention of gunpowder is decisive on this point. Wars in modern times, though complicated with horrors at the thought of which humanity shudders, are far less destructive and carried on with far less ferocity than formerly, when less effective weapons were in use. It will also be obvious, to persons acquainted with the art, that improvements like those of Mr. Cochran, must be far more available in defensive than in aggressive warfare; and any improvements which give the defenders of a country an advantage over those who may be disposed to attack them, will strongly tend to prevent such attacks. This view of the case affords the lovers of peace good grounds to congratulate each other in the prospect that war may eventually become useless and unpopular.

This extraordinary invention of a young American, a native of New Hampshire, and which was recently for the first time exhibited to the public, at the Fair of the American Institute, Niblo's Garden, deserves more than a passing notice. There are circumstances connected with it, which give it a peculiar, if not romantic, interest in the history of the arts of our country. If any thing were wanting amidst the multitude of extraordinary inventions which have, for the last half century, been recorded in the archives of our patent office, to illustrate and establish the pre-eminent claims of our countrymen to genius of a high order, it would be that which forms the particular subject of our remarks.

Mr. Cochran's father was a lawyer, and afterwards a merchant of eminence in Enfield, N. H.; and the son, John Webster Cochran, who was born there, and has invented the species of fire arms in question, was brought up to no particular business. But at the very early age of sixteen he discovered a strong taste and passion for mechanical experiments, and was constantly occupied in the construction of machinery; which his father approving of, unlike many other fathers, encouraged, and to further the wishes of his son, expended several thousand dollars in his behalf, in the cost of the different kinds of apparatus required.

When only eighteen, he made the discovery in question, but did not perfect it until three years after. He then went to France and England, and exhibited his model cannon to Louis Phillipe and William the IV. While at Paris in 1833—34, he was requested by the Turkish ambassador to explain it to the Turkish minister at London, and accordingly went to Woolwich, and performed a series of experiments before the latter personage, which gave so much satisfaction, that he urged Mr. C. to visit the sultan at Constantinople, and for that purpose provided him with the most flattering recommendations to the court of the Sublime Porte. Mr. Cochran arrived at Constantinople Feb. 11, 1836, was received with great distinction, and introduced to the sultan by the grand vizier. His Turkish majesty was highly pleased with the experiments made with the model, told Mr. C. he was satisfied it would be generally adopted, and requested him to cast twelve pounders on the same principle. He was provided with elegant apartments in Pera, raised to the dignity of master of cannon, and furnished with as many workmen as he required for the accomplishment of his task. The treatment in fact, which he received, was equivalent to that of the rank of an ambassador.

Mr. Cochran, however, finding there was no good foundry or mechanics, was obliged to undertake the work with his own hands; and though not brought up to the business of making machinery of any kind, by dint of much labor and perseverance, made, himself, all the necessary implements, the augers and the wooden apparatus for boring with horse power, and the preparations required for procuring the proper castings. By good fortune he succeeded entirely to his wishes, and cast and bored three cannon, two of one pound each, and the third a *twelve pounder*, which last was finished in a style as perfect as he could have desired. On the 14th September following, he proved this last piece to his entire satisfaction, in the presence of all the chief officers of the Turkish government, who were delighted with its execution and made a highly flattering report to the sultan. He fired it off in the presence of those officers to their utter astonishment 100 times in fifteen minutes. The sultan, when he heard of it, would scarcely believe it, and directed Mr. C. to perform the same experiments in his presence. The most extensive preparations were accordingly made for this important trial, which was to take place at Tarache, on the European side of the Bosphorus.

No less than 3000 troops were assembled at this spot. The sultan at the hour appointed, came over from his summer residence on the Asiatic shore, rowed in one of his splendid *caiques*, and preceded by a long line of other boats of the same description. The one which announced the approach of the sultan was manned by 40 oarsmen, and came with even more lightning speed than that in which his august highness himself was seated. As the latter was seen nearing the wharf, Mr. Cochran, at the suggestion of Halil Pacha, the sultan's son-in-law, and commander-in-chief of the

land forces, fired off a salute of twenty-one guns (the customary number) with the experimental cannon, which consumed less than two minutes, and struck the assembled multitude with the utmost amazement.

As the sultan at this moment stepped on the wharf, Halil, accompanied by the grand vizier, and other dignitaries, ran to his majesty, and the former, making the usual salaam of kissing the sultan's foot, announced to him with feeling of exultation that could scarcely be repressed, the wonderful success of the machine cannon, as they appropriately named it. The sultan arrived at his tent, then sent for the *master of the cannon*, the title which was given to Mr. Cochran, and after a short conference with him, in which Mr. C. conversed chiefly in the Turkish language, which he had partially acquired, the sultan renewing his expressions of kindness, requested him to perform the experiment in his presence. His majesty placed himself within a few feet of the piece, and Mr. Cochran commencing rather sooner than was anticipated, the sultan, then with his back towards the cannon, was somewhat startled at hearing the explosions suddenly succeeding each other with such inconceivable rapidity. The cannon was fired one hundred times as before in fifteen minutes, during which the barrel acquired 650 degrees of heat while the revolving cylinder which contained the charges was comparatively cool, being only 250 degrees of temperature. The sultan's exclamation expressive of his delight was, 'God save the Americans—if such boys as you (Mr. C. being then but twenty-one) can invent such things, what can your men do!'

He then asked him for the bill of expenses, and being told by Mr. C. it was left to his own pleasure, he went the next day at the request of the sultan to visit him at his palace. The bag of gold he there received was truly an imperial present, and enough to make his fortune. The amount would scarcely be believed should we name it, and we do not feel ourselves authorised to specify the sum more distinctly than may be inferred from what we have said.

Mr. Cochran soon after returned to America, with an understanding that he should have a contract for supplying a large number of cannon of the pattern exhibited, whenever it could be agreeable to him to execute it.

These adventures of Mr. Cochran, yet a youth, seeking in a foreign land that patronage and encouragement which were the proper measure and appreciation justly due to his pre-eminent talents, and which it is lamentable to be obliged to confess, his own countrymen would not have bestowed upon him, recall the similar examples of West, Fulton, Perkins, and others, and are calculated to reflect discredit upon our national reputation, inasmuch as Americans ought to be the first to reward those inventive powers which are so emphatically characteristic of, as well as honorable to the genius of our people.

Description of the Invention.—The invention of Mr. Cochran is adapted to every species of fire arms. The articles recently exhibited by him at the Fair, are a model cannon, similar to that experimented upon before the Turkish emperor, and a rifle complete, which we shall now proceed to describe. He has fired this rifle twelve hundred times, five hundred of which discharges were in rapid succession, and without producing any expansion whatever in the chambers of the cylinder, or giving it a greater temperature than one hundred degrees of Fahrenheit. As many as two thousand discharges are required before the rifle will have been properly tested after the rule of the war department. Mr. C. is ready at any time to fulfil this complement and go beyond it.

The cylinder is a solid piece of iron, revolving in the plane of the barrel, and occupying a position directly at the base of the barrel which it is in close contact with. The dimensions of the cylinder are in diameter about four inches, and in thickness seven eighths of an inch. There are in this one nine open chambers for the charges, which chambers are perforated upon the periphery and converge like the radii upon the centre. The cones on which the percussion caps are placed form another series of radii concentric and within the circuit of the chambers—a solid metallic partition dividing all the caps from each other. Each cone for the cap communicates with its appropriate chamber, and opens in the centre of the chamber, so that the whole charge of powder is ignited at once, by which the explosion of all the powder is made in one half the time of ordinary rifles, and therefore so much the more force given to it, and consequently a much less charge is required—the weight of the charge being only *one grain and a half*.

As each chamber in its revolution comes into an exact line with the tube of the barrel the cock strikes the percussion cap and the explosion takes place instantaneously. The chambers, as they successively come into a line with the barrel in the revolutions of the cylinder, are momentarily retained firm in this position by the *regulating dog* connected with the cylinder where it joins the breach, and the pin of which dog catches in the small perforations made at equal distances for its reception. Nor can the cock strike the percussion cap until it is in exact position, for if the chamber is not in its proper place, the socket into which the hammer of the cock falls has presented to it only the metallic partitions between the cones, and therefore on striking these no explosion can take place. Nor can any accident happen from explosions of the other chambers contiguous to the one in connection with the barrel. Such an accident never did happen with this rifle, and if it should the direction of the chamber is such that their charges would do no mischief. Nor can the flash of the powder in the chamber in a line with the tube of the rifle be communicated to the other chambers, as the joint of the cylinder where it comes in contact with the barrel is so close that it is air tight, and will not permit of such extension of the ignited powder. The charge of one grain and a half of powder requires a size of ball of fifty to the pound, and the force is sufficient to perforate eight boards each of one inch thickness at the distance of sixty feet. The arrangement of the ball is another beautiful and ingenious invention. Their diameter is exactly fitted to the chamber, but larger than the

diameter of the tube of the barrel by an increment equivalent to the depth of the spiral creases on the inside of the tube.—So that no patch is required as in other rifles, for it is forced into the tube of the barrel and exactly fitted to it by becoming compressed into a cylindrical shape, and its sides grooved by the creases of the barrel, whereby it is kept firmly in its course and moves steadily and with such precision and so closely wedged that no *windage* can get before the ball and give an irregularity to its motion. This prevents a serious inconvenience to which all other rifles are liable. The aim of Mr. Cochran's rifle therefore is always deadly and sure.

By this arrangement there is another additional power acquired, for you have the entire force of the charge behind the ball until it leaves the muzzle, and in the same proportion is the velocity augmented, and, therefore, a less charge required on this account, as well as on account of the manner in which the percussion caps communicate with the chambers, as already stated.—The creases of the barrel, as we before said, keep the ball exactly in its place throughout its whole course to the muzzle, whereas the patch, always used in ordinary rifles, is constantly liable to tear, which causes the irregularity in the ball's motion, and defeats the very object for which rifles were intended. The manner in which the percussion cones communicate with the middle of the chambers, causes the powder to explode in one half the time it would if the ignition took place at the end of, and posterior to the chamber.

As an evidence of the accuracy and effectiveness of this rifle, Mr. Cochran related a bear hunt, in which he took part, a few days since, on the Moose mountains, in his native State of New Hampshire. He fired at the animal with the rifle now at the exhibition, and lodged nine balls in his brain, while he was under full way, at the distance of some four or five rods from him. The bear was brought to the ground, and the nine balls recognized and identified from the others lodged near them, by the grooves made in them by the creases of the tubes, and by their cylindrical shape. His brother sportsmen who had, until then, deemed themselves in possession of good sporting pieces, expressed themselves in raptures at the superiority of their young countryman's magic rifle.

Another remarkable property in this rifle is, that it has not the least recoil whatever, so that there is not the slightest jar or irregularity in the direction.

The patent right for the rifle and pistol, for the United States, has been sold by Mr. Cochran to the trustees of a company in New York, for $300,000. Richard & Richardson, No. 41, South street, are the agents for the company, and have a large manufactory at Springfield, Massachusetts, and are selling the rifles faster than they can make them.

NEW METHOD OF TAKING CASTS.

A late London paper describes the following invention.

A new machine for taking casts has been lately invented by a gentleman in Paris, and is called the Physiognotype. It is of a very simple nature, and takes an exact imprint of the countenance, without any disagreeable sensation, by an application of less than two seconds. This instrument is a metallic oval plate, pierced with a large quantity of small holes, very close together, and through each of which a metallic wire passes with extreme facility. These needles have the appearance of a brush. The whole is surrounded with a double case of tin, which contains warm water, in order to keep the instrument of a proper temperature with the blood. If any figure be applied against this brush of needles, it yields to the slightest pressure, and leaves an exact mould. The needles are then fixed by a very simple process, and from this metallic mould the cast is taken. It is, in fact, a new application of the principle of a process familiar to sculptors, by which a fac-simile of a model is obtained in marble, the needles being driven into the stone. There is nothing disagreeable in the application of the instrument; but the sensation cannot well be described, although, if the Physiognotype were not heated, it would feel like immersing the face in snow. The impression left is an undoubted likeness, and the mask which it produces is a fac-simile of the mould. Nothing is wanting—even a vein on the temple is faithfully represented.

WEAVING IN GLASS.

Signor Olivi of Venice, is said to have recently succeeded in bringing to perfection a manufacture, which may prove of great value, and may be applied to many purposes of usefulness and luxury. It is the art of weaving a tissue from threads made of glass. The process of which the Signor is the inventor, differs from all the attempts of the same kind, which have been previously made in other countries. The web is made to take every degree of shade, from the most perfect transparency to the deepest opaque. The thread is rendered so perfectly flexible as to allow of being tied, and the tissue when manufactured, may be folded like a piece of silk. Another remarkable quality is its resistance to the action of fire. The specimens which have been exhibited have called forth the highest admiration, and the brilliancy of color given them is altogether surprising. The singularity and beauty of the fabric, have induced the Institution of Arts at Venice, to award medals to Signor Olivi for his invention. He had also hoped for encouragement from the Austrian government, but in consequence of the failure of his expectations in this respect, he was recently about to proceed to Paris, where every thing relating to the arts is encouraged, and where he hoped his invention might meet with a better reward, and perhaps be brought by further experiments to still greater perfection.

INDELIBLE INK.

A communication has been made to the French Academy of Sciences, stating that Indian ink, dissolved in water slightly acidulated with hydroclorine or other acid, would prove to be indelible, when used for writing on common paper.

CONSTITUTION OF THE GERMANIC CONFEDERATION.

The sovereign princes and the free cities of Germany, including the emperor of Austria and the king of Prussia in respect to such of their possessions as formerly belonged to the German empire, the king of Denmark for the duchy of Holstein and the king of the Netherlands for the grand duchy of Luxemburg, are united in a perpetual league under the name of the Germanic Confederation.

The provisions of this league combined with the provisions of the several governments of the members, compose a very complicated general government.

The object of this confederation is declared to be the preservation of the external and internal security of Germany, and the independence and inviolability of the confederated States. All the members of the confederation, as such have equal rights. New States may be admitted into the union by the unanimous consent of the members.

The affairs of the union are entrusted to a federal diet, which sits at Frankfort on the Main, in which the States are severally represented by their respective ministers, which meet and vote in what is called an *Ordinary Assembly*. Austria presides in the assembly, but each State has a right to propose any measure for deliberation by the diet. In the ordinary assembly the votes are as follows:

Austria, Prussia, Bavaria, Saxony, Hanover, Wurtemburg, Baden, Electoral Hesse, the grand duchy of Hesse, Denmark, (for Holstein,) the Netherlands (for Luxemburg,) one each; the Grand Ducal and Ducal Houses of Saxony, one; Brunswick and Nassau one; Mecklenburg-Schwerin, and Strelitz, one; Oldenburg, Anhalt and Schwartzburg, one; Hohenzollern, Lichtenstein, Reuss, Schaumburg, Lippe, Waldeck and Hesse Homburg, one; the free cities of Lubeck, Frankfort, Bremen and Hamburg, one; total 17.

For the decision of certain specific questions, the diet is formed into what is called a *General Assembly*, or a *Plenum*, in which the votes are distributed as follows.

Austria, Prussia, Saxony, Bavaria, and Hanover, four each; Baden, Electoral Hesse, the Grand duchy of Hesse, Holstein and Luxemburg, three each; Mechlenburg-Schwerin, Nassau and Brunswick, two each; Gotha, Coburg, Saxe-Weimar, Meinengen, Hilburghausen, Mechlenburg-Strelitz, Oldenburg Anhalt-Dessau, Anhalt-Bernburg, Anhalt-Coethen, Schwartzburg-Sondershausen, Schwartzburg-Rudolsladt, Hohenzollern-Hechingen, Lichtenstein, Hohenzollern-Sigmaringen, Waldeck, Reuss, (elder branch,) Reuss (younger branch,) Schaumburg-Lippe, Lippe and Hesse-Homburg, one each; the free cities of Lubeck, Frankfort, Bremen, and Hamburg, one each; total seventy.

Every question submitted to the general assembly of the diet is first discussed in the ordinary assembly, where it is decided by a majority of votes; but in the general assembly, (*in pleno*,) two thirds of all the votes are necessary to a decision. The ordinary assembly determines what subjects are to be submitted to the general assembly. But all questions concerning the adoption or alteration of the fundamental laws of the confederation or organic regulations establishing permanent institutions, as means of carrying into effect the objects of the union, and all questions concerning the admission of new members must be submitted to the general assembly; and in all these, absolute unanimity is necessary to a decision in favor of the proposition.

Under these restrictions the diet has power to establish fundamental laws for the confederation, and organic regulations respecting its internal, foreign and military affairs.

All the States guaranty to each other the possession of their respective dominions, within the union, and engage to defend, not only entire Germany, but each individual State in case of attack.

When war is declared by the confederation, no State can negotiate separately with the enemy, nor make an armistice or a treaty of peace, without the consent of the other diet. Each member of the confederation may contract alliances with foreign States, provided they are not directed against objects for which the confederation is formed. *No State can make war upon another member of the union, but all the States are bound to submit their differences to the decision of the diet.* This body is to endeavor to settle them by mediation; and if unsuccessful, and a juridical sentence becomes necessary, resort is had to an *Austrëgal* proceeding (Austrägal-Instanz,) to which the litigating parties are bound to submit without appeal.

Each country of the confederation is entitled to a local constitution of States. The diet may guaranty the constitution established by any particular State on its application, and thereby acquires the right of settling the differences which may arise respecting its interpretation or execution, either by mediation or judicial arbitration, unless such constitution shall have provided other means of determining controversies of this nature.

The diet may interfere to suppress any insurrection or rebellion which may threaten the general safety of the confederation.

In case of the denial or unreasonable delay of justice by any State to its subjects or others, the aggrieved party may invoke the mediation of the diet, and if a suit between private individuals involve a question respecting the conflicting rights and obligations of different members of the union, and it cannot be amicably settled, by compromise, the diet may submit the controversy to the decrees of an Austrëgal tribunal.

The decrees of the diet are to be executed by the local governments of the several members of the confederation, excepting the case of an interference by the diet for the suppression of an insurrection or rebellion, and even then the execution is to be enforced, as far as practicable, by concert with the local government against whose subjects it is to be directed.

The subjects of each member of the union have the right of acquiring and holding real property in any other State of the confederation; of migrating from one State to another, of entering into the civil

or military service of any one of the confederated States, subject to the paramount claim of their own sovereign; and of exemption from taxation on removing their effects from one State to another, unless in any particular case, and reciprocal compacts shall have been stipulated to the contrary.

The diet has power to establish uniform laws concerning the freedom of the press, and to secure to authors the copy-right of their works in all the States of the confederation.

The different Christian sects, throughout the confederation are entitled to an equality of civil and political privileges, and the diet is empowered to take into consideration the means of ameliorating the civil condition of the Jews, and of securing to them in all the States of the confederation the full enjoyment of civil rights, on condition of their submission to all the obligations of other citizens. The privileges granted to them by any particular State are meanwhile to be maintained.

The commercial intercourse between the States, and the free navigation of the rivers, belonging to the confederation, as secured by the treaty of Vienna, are subject to the regulations of the diet.

Notwithstanding the numerous powers thus given to the diet and the restraints imposed upon the exercise of sovereignty by the individual States of which the union is composed, it does not appear that the Germanic confederation can be distinguished from an ordinary equal alliance, between independent sovereigns, except by its permanency and the great number and complication of the objects it embraces. The several States still act separately, and have no common sovereign.

What are called its fundamental laws are not enforced by any common power directly upon individuals, but only through the agency of each separate government, adopting them, and giving them the force of laws, within its own local jurisdiction.

There are indeed a few particular cases in which the diet appears to have power to enforce its own regulations directly against individual subjects, without the agency of the local government; but these are merely exceptions to the general character of the union.

Austria and Prussia are two great preponderating members of the confederation, and their wishes may sometimes have the force of commands upon the diet, and through this also upon the other members; but notwithstanding this circumstance, and the habitual influence exercised by them over the councils of the diet and of the several States, the sovereignty and independence of the members, in legal contemplation, remain unimpaired.

An act of the diet dated the 28th of June, 1832, gave force to several important articles. Some of these were declaratory of the principles of previous articles of the confederation while others introduced some new modifications.

In order that the powers of the States may remain with their respective sovereigns, it is the right and duty of the several sovereigns, as members of the confederation, to reject the petitions of the chambers, of any local jurisdiction, which may be contrary to this principle.

The chambers of local jurisdiction cannot refuse to any German sovereign the means of fulfilling his federal obligations as well as those of the local constitution, and, therefore, if they endeavor to make their consent to taxes, which may be necessary for these purposes, depend on the assent of the sovereign to their propositions on any other subject, such cases are to be reckoned among those provided for in the articles relating to cases of resistance by subjects against their governments.

The interior legislation of the States belonging to the German confederation cannot prejudice the objects of the confederation nor obstruct the accomplishment of the federal obligations of the States, especially the payment of taxes, necessary to fulfil them.

The diet appoints a commission, for the term of six years, to be charged with the supervision of the deliberations of the chambers relating to federal obligations. This commission is to report to the diet, which, if there be occasion, will take suitable measures in relation to the local government concerned.

At the end of the term of six years the diet will make arrangements for the prolongation of the commission.

The tranquillity of a state, or of the confederation, is not to be endangered by the free expression of opinion, either in the deliberations of the chambers of the local governments, or in the publication of those deliberations in those States where such publication is secured by the local constitution.

The diet has the exclusive right to give such interpretation to the articles of confederation as to produce their legal effect.

Further modifications were introduced by an act adopted by the diet on the 30th of October, 1834.

This act provides for the appointment of a board of arbitrators for the determination of disputes between the respective sovereigns of the confederation and the chambers of local legislation, especially in the case of a refusal of supplies.

The representatives of each of the powers entitled to a vote in the ordinary assembly, once in three years, and also as often as a vacancy occurs, shall nominate, within the States represented by them, two persons distinguished by their reputation and length of service in the judicial and administrative departments.

In case of a dispute between the sovereign and the chambers of a State, each party is to choose three from the persons thus nominated, or the number may, by the consent of the parties, be reduced to two, or increased to eight; and if either party neglect to choose, the appointment may be made by the diet. The arbitrators, or in case they are equally divided, the diet, choose an additional umpire.

The umpire refers the documents relating to the matter to two of the arbitrators, (of whom one is to be of the number of those chosen by each party,) for report.

The arbitrators then meet at a place designated by the parties, or in case of their disagreement, by the diet, and decide the question by a majority of voices. Additional elucidations, if required, are to be furnished by the diet, and except in case of

unavoidable delay, the decision is to be pronounced within four months from the time of the nomination of the umpire, and transmitted to the diet to be communicated to the government interested.

The same tribunal is to decide upon differences between the senate and the authorities established by the burghers in the free cities.

The different members of the confederation may likewise resort to the same tribunal for the determination of differences between them, and in such a case when the consent of the parties is obtained, the diet shall take measures to organize the same, according to the preceding articles.

Our limits forbid us to make many remarks upon this constitution, at this time; but we cannot omit the observation, that here we have a *congress of nations*, of which one object is the preservation of peace between the members of the confederation.

This feature is worthy of imitation. Some common tribunal for the mediation or equitable adjustment of international controversies, would doubtless prevent many cases of war. The obligation to submit questions in dispute to be convassed by intelligent men would alone have this effect, though their opinion should have no obligatory force.

THE DIP AND STRIKE OF GEOLOGICAL STRATA.

In geological observations of stratified rocks, it is important to observe the *dip* and *strike* of the strata. To illustrate the meaning of those terms, let the annexed sketch, (Fig. 4,) represent a table, *b*, on which some books, *a*, are made to rest in a standing position by lying on another book *c*, which lies

flat on the table. Now if the table represents a horizontal surface, and the books, beds of rock, then the angle which the sides of the tilted books, *a*, make with the table, *b*, would represent the dip, and the more the books vary from a horizontal position, the greater is the dip.

The strike is a horizontal line at right angles with the dip. The direction which the lines of the back of the books *a*, or *d*, might take toward the north or south, or toward any other point, would be their strike. If the books *a*, dip to the west, then the line of their backs, or their strike, will be north and south. The books, *a*, and *d*, may have the same strike though their dip may vary, that of the books *d* being vertical while that of the books *a* is inclined.

ARTIFICIAL EMBANKMENT OF ITALIAN RIVERS.

The changes occasioned in northern Italy by gradual alterations in the currents of rivers, especially in that of the Po, since the time of the Roman republic, are considerable. To check these and similar aberrations, a general system of embankment has been adopted; and the Po, and the Adige, and almost all their tributaries are now confined between high artificial banks.

The increased velocity acquired by streams thus closed in, enables them to convey a much larger portion of foreign matter to the sea, and, consequently, the deltas at the mouths of the Po and Adige, have gained far more rapidly on the Adriatic since the practice of embankment became common, than before. But though more sediment is borne to the sea, part of the sand and mud, which, in the natural state of things, would be spread out by annual inundations over the plains through which the rivers pass, now subsides to the bottom of the channels; and their capacity being thereby diminished, it is necessary, in order to prevent their inundations in the following spring, to extract matter from the bed, and to add it to the banks of the river. Hence it happens that these streams now traverse the plain on the top of high mounds, like the waters of aqueducts; and at Ferara, the surface of the Po has become more elevated than the roofs of the houses. The magnitude of these barriers is a subject of increasing expense and anxiety, it having been sometimes found necessary to give an additional height of nearly a foot to the banks of the Adige and the Po, in a single season.

Waves beating against a rock.

TRUST IN PROVIDENCE.

To stand on a point of rocks projecting into the ocean—the ocean, whose waves for thousands of years have been dashing against the barrier,—to listen to the ceaseless roar—the voice of many waters,—to stretch the imagination across the broad expanse of waves, which since the last grand convulsion of nature, have been driven and tossed about by the winds—and will continue in ceaseless commotion till the trump of the archangel shall declare that time shall be no longer,—to wait the departure of the light till the darkness of the gloomy night shall cover us, then to hear the tempest raging,—to find the waves rising higher, and the winds on land and sea increasing,—to see the lightning flashing thick and fast around us,—to hear the thunder breaking suddenly over head with a voice louder than the roar of ocean,—to behold a vast volcano bursting and sending forth streams of lava and columns of smoke and fire mingled with rocks and ashes—to feel the earthquake heaving under foot, to know the rocks are cleaving asunder, and tumbling into the sea—and all the while to feel that one Almighty power directs the whole and will preserve his friends, that not a hair of our heads shall fall without his command—it is worth more than all the speculations of all the infidel philosophers that ever did, or ever will exist.

Durion. Mango.. Mangosteen.

THE MANGO OF THE EAST INDIES.

India has long been known as the land of spices. Less has hitherto been generally known respecting its other fruits.

In consequence of the warmth of its plains and vallies, India is enabled to produce, in cultivation, all the fruits of the tropical regions; while the elevation of its mountains, some of which are the highest on the globe, and the consequent rigor of their climate gave it a range wide enough to take in the produce of Lapland itself.

Of the fruits which may be reckoned peculiar to India, one of the most delicious is the mango. Like the cocoa-nut, the mango finds a place in the mythology of the Hindus, and the tree is represented as growing out of, and overshadowing the head of the goddess Indrace, in the excavated temple of Indra, at Ellora. The mango is very widely diffused over India, and found both in a wild and in a cultivated state, from the hills of Sirhind on the north-west of Delhi, to the southernmost point of the peninsula. As is the case with many other fruits, it is said to be better on the west coast of the peninsula, then on the east, till the humid districts on the east of Bengal are arrived at. Travellers say that the finest mangoes are produced near Bombay; that the tree, when the fruit is nearly ripe is there guarded by an armed band; that during the reign of Shah Jahan, about the middle of the 17th century, carriers were were placed at stations all the way from this coast to Delhi, in order that the mangoes of Concan might be enjoyed in perfection, as the finest vegetable dainty, at the imperial table.

The mango is a very beautiful tree, having in its general habit, some resemblance to the walnut, only the leaves are more gracefully formed. The flowers which are small, whitish, and have each five lancet shaped petals, grow in large pyramidal bunches. They are followed by clusters of fruit slightly kidney-shaped, and about the size of an ordinary pear. The fruit when ripe varies much in color, there being upon the same tree, all shades from apple-green to a bright golden orange, having one side marked with a glowing crimson. In the eastern islands the mango attains the weight of two pounds, though it is never so large in even the most favored places on the continent. The skin of the mango is thin and smooth, and underneath that there is a flesh or pulp, rather firm to appearance, but which is far more cooling and delicious in flavor than any peach. It is difficult to imagine a finer fruit, and it has the advantage of being very productive.

THE MANGOSTEEN.

However exquisite the flavor of the mango, there are not a few who would consider the mangosteen and the durion superior; and to the taste of many Europeans the *mangosteen* is the most delicious fruit that grows. The tree is also a most ornamental one. It rises to the height of about twenty feet, and the arrangement of the bunches gives to the top of it the outline of a parabolic conoid. This is the form marked, in the outline, by a jet of water running horizontally from a reservoir, and seems to be both the most stable and the most graceful of figures.

The leaves are large and of a most beautiful green; and in their arrangement, as well as in the flower, there is some resemblance to the habit of the *Camellia Japonica*, but the whole is more majestic. The leaves are, at least, eight inches long, and four in breadth at the middle. The flowers are produced at the terminations of the shoots, and resemble single roses, with their petals of a fine dark red.

The fruit is spherical, but compressed a little at the stem, where it is embraced by a calyx of four petals, and at the crown, where there is a cape consisting of six rays. When ripe the fruit is about the size of an ordinary orange, and of a fine brown color, dappled with yellow. The rind is about the thickness of that of an orange, and like an orange, the interior is divided by thin membranes into seperate cells, six in number, in which the seeds are contained.

These cells also contain the pulp, which all who have tasted it agree in admiring, as the highest gratification of the palate, though no two be quite agreed what it most nearly resembles. The flavor of the grape and that of the strawberry are contained in it, while it has a peculiar pungency, to which perhaps camphor, in very small quantity, bears as near a resemblance as any thing with which Europeans or Americans are familiar, and it leaves a sense of coolness on the palate, which under the burning sky of those regions is peculiarly pleasant.

'I and my companions,' says Abel, a competent judge, 'were anxious to carry with us some precise expression of its flavor, but after satisfying ourselves, that it participated of the compound nature of the pine apple and the peach, we were obliged to confess that it had many other good, but utterly inexpressible flavors.'

The mangosteen is found both cultivated and wild; and the latter is said to be, in some situations quite equal to the former. The mangosteen has not hitherto been transported out of its native country, though from the resemblance of its rind to that of the orange, or rather to that of the pomegranate, there is a possibility that it might, if taken before it was thoroughly ripe, be transported to a distance: and thus, as it has been found in the British possessions on the east side of the bay of Bengal, espe-

cially in Tavoy, it may find its way to the shores of Europe.

THE DURION.

The durion, *durio zebethinus*, is a singular and wonderful fruit. It is both worse and better than the mangosteen—worse in respect to its appearance, being externally rough and unpromising in the extreme, and also in respect to its odor, which is peculiarly rank and offensive. Putrid eggs, and onions, the washings of a gun,—all sorts of smells that are more than usually disagreeable, have been cited as illustrations of the odor of the durion; and to complete the parallel, the fruit itself becomes putrid sooner than any other vegetable with which we are acquainted. Twenty-four hours after being pulled, it begins to rot, and in a state of decay becomes more offensive to the olfactory nerves than ever. Still when the Tavoy district was in the hands of the Burmese, the durion was carried thence to Amarapoora, the capital, a distance of more than six hundred miles, as a chosen luxury for the sovereign, though it must then have been in a state of decay.

Those who have tasted the durion, confess that the wholesomeness, the exquisite flavor and nutritious qualities of the fruit soon made them forget the odor of the fruit itself and that which it communicates to the breath. The exquisite part of the fruit is a pulp, of a pure white color and about the consistency of cream, in which, the odor excepted, the very choicest qualities of animal and vegetable aliment, of the most nutritious food, and the most cooling drink, are so blended together, that it is difficult to say which predominates; and all the arts of cookery would be exerted in vain to produce an imitation of the durion. It is turtle and champaign, capon and iced pine, all blended together, with some unknown ingredient added, which not only gives a zest but a medicinal virtue to the whole. The durion, different from almost all delicious fruits, never palls upon the appetite, and, instead of injuring the digestion it restores the tone of disordered stomachs.

The tree which produces this choice and singular fruit is, in habit, somewhat like a pear tree, but the leaves, which are entire at the edges, have more resemblance to those of the cherry. The flowers are large, contain a number of filaments, and are of a yellowish color. When young the fruit resembles the chestnut in appearance, but it is covered with pointed scales instead of spines. As it swells it attains the size of a man's head, and excepting the pointed scales which are still retained, it bears a considerable resemblance to the bread-fruit. If it is suffered to remain upon the tree after it is ripe, the scaly coating, with which it is covered, bursts at the crown, the pulp putrifies, and the seeds fall to the ground.

There are four cells, each of which usually contains several seeds which are embedded in the pulp. The seeds when roasted may be eaten, but they have none of the exquisite qualities of the pulp in which they are embedded. They have a resemblance to chestnuts but they have also a peculiar flavor, intermediate between those of turpentine and camphor; they have not the delicious taste, but are not deprived of the repelling odor of the fruit.

Some have given extremely unfavorable accounts of the durion, but it is most probable that they have judged of it only from the seeds.

THE BLIND MADE TO SEE.

An interesting case of surgery, with a view to the bestowal of sight, is mentioned in the Lexington (Ky.) Intelligencer. It is that of a young man from Mississippi, aged about twenty-one, and blind from his birth, who came to that city a few weeks ago, for the purpose of having an operation performed, in the hope of attaining the power of vision. The operation was performed by Professor Dudley, of the Medical Department of the Transylvania University, and appears to have been completely successful—so far as human agency could at once impart to an adult, a new sense and a capacity for its exercise. Two weeks after the operation, the young man presented himself before the medical class, and easily distinguished the features of those who had attended him; but nothing satisfactory could be obtained from him, in regard to the difference between those ideas, which he had formerly received through the sense of *touch*, and those recently received through that of *vision*. The Intelligencer states that the young man was particulary pleased with the exercise of his newly acquired sense in walking the streets, looking at the houses, and trees and flowers, and men and women; but he expressed himself as being especially delighted 'in gazing at the beautiful *girls* for the first time in his life, having, as he said, had the pleasure of '*feeling them only before*.'

THE VIRGINIA DWARFS.

We were yesterday introduced to Major Walters, his two sisters and younger brother; and a collection of smaller adults, it would be difficult to get together. The Major is about twenty-six years old, as may be seen by his face; is three feet seven inches high, and weighs 43 lbs. He is full of life, and when his two sisters have him by the arm, struts as large as a peacock. He appears to be of a lively turn; says he should like to get married, could he find a young lady to his fancy, and he seems to think, with the old Dutchman, that a 'man ish a man, if he's no bigger as my dumb.'

Miss Roxana is twenty years of age, three feet high and weighs thirty lbs.

Miss Catharine is eighteen years of age, three feet one inch high, and weighs thirty lbs.

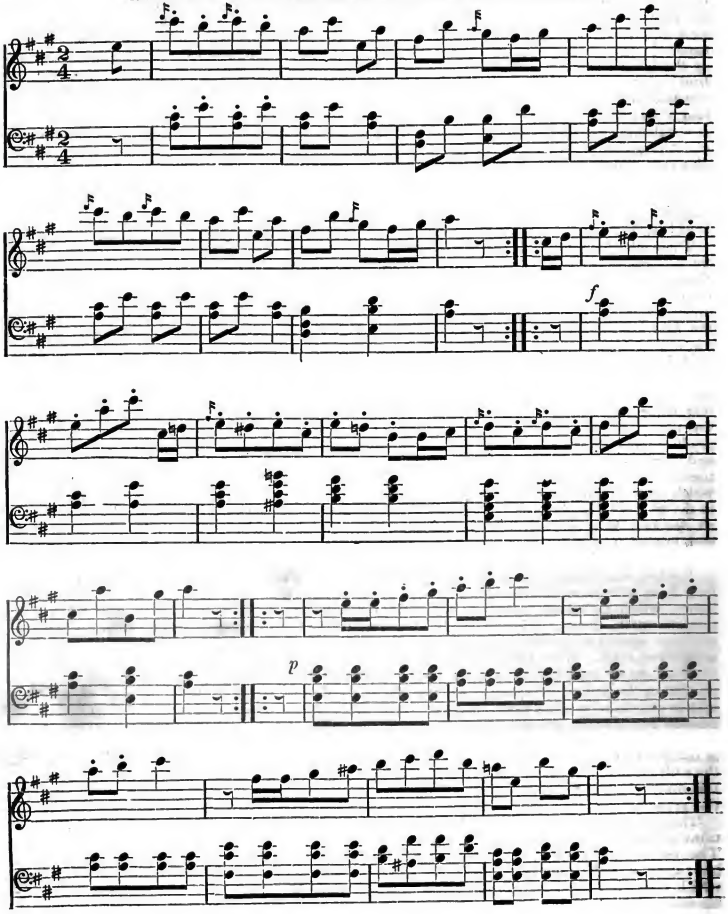
Master William is in his ninth year, is two feet eight inches high, and weighs twenty-two lbs.

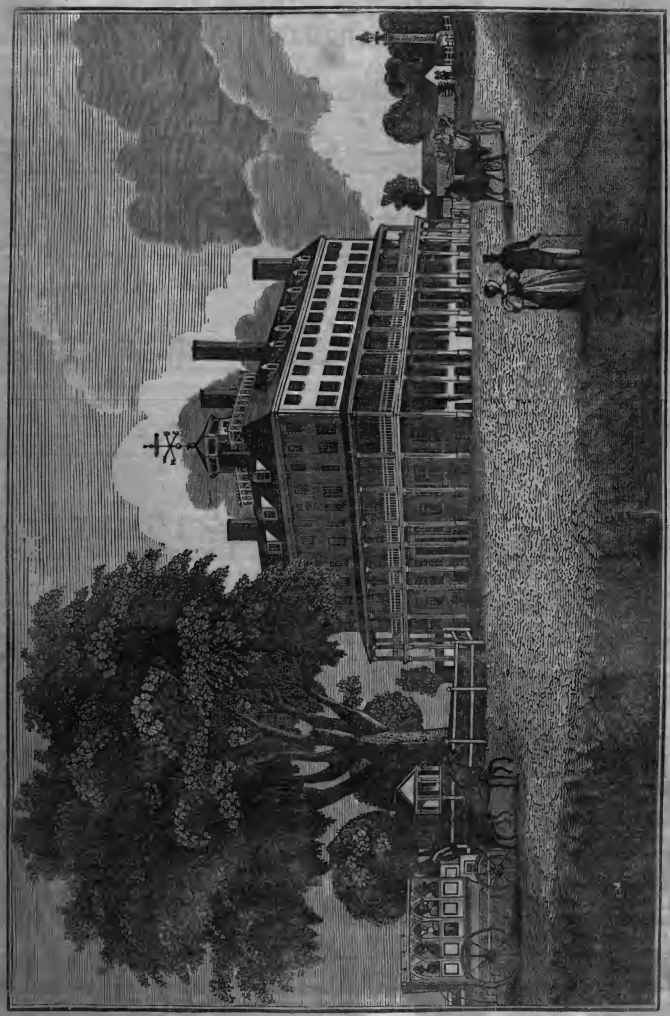
The father of these children is with them; he is a man nearly six feet high, and says his wife was of the ordinary size. The major also has with him a sister, we believe between Catharine and Roxana, by the same mother; she is of masculine appearance, and we would say could put the rest of the family, in her pockets, (if she wears any,) and run away with them.

The Major and family will remain a few days at the Masonic Hall, where he will no doubt be happy to receive visiters.—*Augusta Constitutionalist.*

QUADRILLE.

ARRANGED FOR THE AMERICAN MAGAZINE, BY CH: ZEUNER.





[View of the Maverick House at East Boston.]

EAST-BOSTON.

A traveller visiting Boston in the summer might find the mercury at one hundred degrees, or near it, with a burning sunshine reflected from the sidewalks of the streets and the walls of the buildings ; or in winter he might find the heat, as indicated by the thermometer, a negative quantity—*less than nothing ;* in either case a place of refuge from the extreme of heat or cold would be agreeable. If he does not choose the *omnibus*, which is ready *for all*, and wishes to be near the centre of business, we would advise him to walk to Lewis' wharf, which he will find next north of a new block of granite stores, leading from Commercial street to the water. The fare for a passage across the ferry will be four cents, if he be a pedestrian ; and this being paid, one of the steam-boats belonging to the *East-Boston Ferry Company* will carry him across the ferry, a distance of six hundred yards, a little more than one third of a mile, in three minutes. He need not be particular which of the boats he goes in, for they are all large and convenient, and since they are constantly plying, he will have opportunity to return whenever he chooses.

He will be landed on a spacious wharf extending 1250 feet into the channel, and 310 feet wide, with a dockage on each side, of one hundred feet. The massy side walls of this wharf are of solid granite, seven feet in thickness, and the filling up of earth, in the intermediate space, is also solid. The public way over the middle of this wharf from the ferry landing, which is to be forever kept open for the accommodation of the public, is seventy feet wide, and the whole surface of the wharf contains more than nine acres.

He will find the severity either of the heat or cold to be considerably mitigated ; for in going this short distance, the more immediate vicinity of the ocean moderates the excessive cold of the winter and the extreme heat of the summer; and though he may observe a considerable quantity of low ground, from which, in warm weather, he would expect a disagreeable smell at low tide, he will find nothing of this kind at East-Boston. The sub-stratum of the soil is a hard blue clay, and the shores of the island afford no aliment for those rank odors which in many places are so common and so offensive. The ferry crosses the point of confluence between the Charles and the Mystic rivers, where the current is such as to keep the waters clear of ice longer than at any other place in the harbor, and the boats being able to ply their passage in the coldest weather, prevent the ice from closing over, in consequence of which, all that is formed below the ferry is drifted out to sea.

Our traveller, as he passes up from the wharf, will not fail to notice at the head of it, on the right hand, a large brick building, eight stories high, which by measurement would be found to be 136 feet long by seventy-five in width, and several smaller ones apparently connected with it. If he has received no previous information respecting it, his curiosity will doubtless be excited to know the purpose for which such an edifice, not having the appearance of a dwelling house, is intended. The answer to his inquiries will make him acquainted with the *Boston Sugar Refinery*. This is an incorporated company, having a capital of two hundred and fifty thousand dollars. This establishment, when in full operation, is the largest of the kind in the world. It has not yet been carried to the full extent of its capacity, but as its reputation is established, it is expected that its operations will soon be carried on upon a scale which has no parallel in the annals of commerce in any country.

It contains a steam-engine of twenty-five horse power in constant operation. The water used for the engine, and also for the process of refining, is brought from a spacious brick well, near the Maverick house, affording about thirty gallons a minute, of an excellent quality, which is drawn off by pipes on the principle of the syphon, and received in a reservoir, from which it is drawn up for use, as occasion requires, by the engine.

If our traveller prefers to pass on without stopping to observe the recent improvements, by which East-Boston is about being changed from a farm with no more than ordinary cultivation, to a place of business, in five minutes from the time he leaves Lewis' wharf, he may sit down with Major Barton, at the *Maverick House*, to as good a dinner as any temperate man need desire. After he shall have satisfied his hunger, and seen the accommodations which the house affords, he will probably wish to take up his quarters there for a permanent residence during his continuance in the city ; but he will be very fortunate indeed if he finds accommodations to the extent of his wishes, unless he shall have made previous arrangements for that purpose, or unless he will be contented to wait for some expected vacancy. The accommodations are every way convenient and elegant, but have been found entirely insufficient to satisfy the demand. The *East Boston Company*, to whom the establishment belongs, have it in contemplation to enlarge the building very considerably by an addition which will afford a large number of rooms suitable for parlors, keeping rooms, and sleeping apartments. The contemplated addition, soon to be made, will render the establishment equal to any in the vicinity. Some idea of the elegance of the exterior, in its present state, may be obtained from our pictorial representation. But we cannot conveniently show our readers the dining-rooms, ball-room, parlors, reading-room, and more than a hundred other rooms and offices in the interior. Our traveller will also, from personal inspection, obtain a more perfect idea than we can give, of its piazzas, corridors, cupola, its spacious rotunda, of the extensive bathing-rooms, places of amusement, stables, sheds, coach-house, pleasure-grounds, flower-garden, and the buildings on the beach for sea-bathing, connected with the establishment.

On the west side of the island, a little north of the Maverick house, will be found the buildings of the *Boyden Malleable Cast-Iron and Steel Company*. They consist of two large brick factories, one, two hundred feet long by thirty feet wide, and the other eighty feet by thirty ; fourteen or more dwelling-houses for the workmen, together with a solid wharf, of granite and earth, in front. An engine of forty horse power in a separate brick

building, demonstrates a determination not to be obstructed by trifling obstacles. The stock of this company, at the present time, does not bear a very high price in the market, but it is believed this is owing to other circumstances than the want of a probability of ultimate prosperity, and that it will not be permanently depressed.

Another incorporated company who have their establishment at East-Boston is the *East-Boston Timber Company*. This company have a capital of one hundred and fifty thousand dollars. They have a store and wharf, and a timber dock two hundred feet square. They are very extensively and usefully employed in supplying the various shipyards on this part of the Atlantic coast with ship timber, of an excellent quality, from the lands at Grand Island, in the State of New York. This enterprise is one of great advantage to the interests of navigation in the New England States, and will hereafter contribute in no small degree to the perfection of the national vessels, which may be launched from the navy-yard at Charlestown.

Lands have been appropriated and an act of incorporation obtained, for the *Merchants' Marine Railway*, allowing the company to establish inclined planes for the repair of six ships at the same time.

There are a considerable number of private dwelling-houses, stores, ware-houses and wharves on the island, and it is estimated that the number of inhabitants is now seven or eight hundred. Every part of the island affords good water, and in many places an ample supply is obtained by digging fifteen feet. On the summit of Belmont, a point of land on the southern part of the island, which is as high as any other part, it was found necessary to sink a well only fifty-two feet. The deepest wells pass through the stratum of hard clay before mentioned, and however thickly the island may be settled hereafter, will probably continue to afford sufficient supplies of water which will be uncontaminated by any impurities from the surface.

A large portion of the ground on which the buildings stand has been graded and levelled for the purpose, under the direction of the East-Boston Company, who purchased the island for the purpose of commencing the improvements which have now been prosecuted for about three years.

A circumstance of interest to the traveller, which we have not yet mentioned, is the fine and level road across the island, from the ferry to the free bridge, the property of the Ferry Company, forming a communication with Chelsea. From this bridge, the road is continued to the Salem turnpike, the whole distance from the ferry landing to the turnpike being two miles and nine tenths. The distance from Boston to Salem, by this route, is but little more than twelve miles. The great quantities of beach gravel which may be procured at a trifling expense, render the making of good roads, free from dust, much easier than in most other places.

The route of the *Eastern rail-road*, for the construction of which an incorporated company has been formed, lies across this island. Arrangements have been made with the East-Boston Company for land to be occupied for a depot, contiguous to the ferry landing. When this project shall be completed, East-Boston will probably be one of the principal avenues to the city.

The history of this island is brief but interesting. The first white inhabitant was Mr. Samuel Maverick, one of the early settlers in the Massachusetts bay. This was before the settlement of the peninsula of Boston. Mr. Maverick was a very hospitable man, and in those early days gave entertainment to all that came. He afterwards had a grant from the general court of Massachusetts, confirming him in the possession of the island, and a fort, probably on Mount Belmont, in which he had four cannon mounted, for the protection of his dominions. It would perhaps be fair to presume that the inhabitants of Boston had some interest in this fort, but on this point we are not informed. The island has since been called *Noddle's island*, until the commencement of the recent improvements. It has generally been occupied for a farm, and more especially for pasturage, for which it is well adapted.

At the commencement of the revolutionary war, an action between a part of the British troops in Boston, and a detachment of the provincial army at Cambridge, was commenced on this island, in which there was a sharp contest for the possession of the stock, consisting of horses, cattle and sheep, then on this and Breed's island, then called Hogg island. The latter lies north-east of Noddle's island, between that and Chelsea neck, leading to Point Shirley, which lies south-east of Breed's island. This action resulted in the Americans driving off a considerable part of the stock on Noddle's island, the whole of that on Hogg island, the burning of a barn on Noddle's island, containing salt hay, and also a sloop which was sent from the British fleet for the protection of the stock, and in killing and wounding a considerable number of the British troops, all without loss to the provincial party.

On a future occasion, in an article in which we propose to give some account of improvements in the new and flourishing village of Chelsea, we shall probably give a particular account of this action. It was in fact, a good beginning, and was soon followed by the celebrated battle of Bunker-hill, in which the Americans, though not entirely successful, reaped almost all the advantages of a victory.

Remarkable effect of the buoyancy of ice in some of the rivers of America.—A remarkable effect produced by the buoyancy of ice in water is observable in some of the rivers of America. Ice collects around stones at the bottom of the river, and it is sometimes formed in such a quantity that the upward pressure by its buoyancy exceeds the weight of the stone round which it is collected; consequently it raises the stone to the surface. Large masses of stone and ice are thus observed floating down the river to considerable distances from the places of their formation.

Adulteration of milk. The adulteration of milk by water, may always be detected by the hydrometer and in this respect it may be a useful appendage to household utensils. Pure milk has a greater specific gravity than water, being 103, that of water being 100. A very small proportion of water mixed with milk will produce a liquid specifically lighter than water.

Oblique view of the clay cliffs at Gay Head.

GAY HEAD.

The most interesting spot on Martha's Vineyard, is Gay Head, which constitutes the western extremity of this island, and consists of clays and sands of various colors. Its height cannot be more than 150 feet; yet its variegated aspect, and the richness of its colors, render it a striking and even splendid object, when seen from the ocean. The clays are red, blue, and white; the sands, white and yellow; and the lignite black: and each of these substances is abundant enough to be seen several miles distant, arranged generally in inclined strata; though from being unequally worn away, apparently mixed without much order. The top of the cliff is crowned by a light-house, which commands an extensive prospect. Scarcely a tree can be seen on this part of the island. It is owned and inhabited by the descendants of the Indian tribes, that once possessed the whole island. Several cliffs of clay and sand along the coast exhibit the combined effects of the ocean, rains, frost, &c. in wearing away the land. In Chilmark, on Martha's Vineyard, is one of these facing the southeast, and at least a mile in length. It is now rare that the breakers rise high enough to impinge directly against the cliff: but they wash away whatever materials have been brought down by the rains. Gay Head, standing exposed to the buffetings of wind and waves from the sea, and to the wastes of storms from above, exhibits perhaps, the most instructive example along the shore, of the effects of these agents. There is not, remarks the Professor of Natural History in Amherst College, a more interesting spot, in the State, to the geologist. And among other things he cannot but notice the numerous fantastic forms into which the lofty masses of clay have been worn, while the numerous boulders and pebbles along the beach, attest the violent action of the sea. The accompanying engraving will give some idea of the aspect of the north-western part of the cliff, as seen by a person standing on the beach below, close to the water. To exhibit it to perfection, the various lively colors of the different kinds of clays should be put upon it. A similar bank of clay occurs at the light-house in Truro, near the extremity of Cape Cod. It lies exposed to the unbroken fury of the wide Atlantic, and the marks of slow encroachment upon the land are quite manifest. Indeed, it is the prevailing opinion in that region, that this Cape is wearing away along the whole extent of its eastern extremity, and extending farther into Massachusetts bay on the opposite side There can be no doubt that this is the case: for the general current on that coast is towards the west. The same is presumed to be true of a considerable portion of the eastern shore of Nantucket. From data, on which Lieutenant Prescott places considerable confidence, he infers, that in one place the loss of land within half a century, has amounted to three or four rods in width.

DISCOVERY OF THE PURPLE OF TYRE.

Murex or Conchylium. One of the principal commodities of the ancient city of Tyre, 'whose merchants were princes, and whose traffickers were the honorable of the earth,' was its purple. This rich tincture, which brought so much treasure to that metropolis, and became so celebrated in former times, was extracted from a testaceous sea-fish, found upon the Tyrean coast, and now unknown there. This fish is generally called *Purpura*; and the discovery of its tinging quality, is said to have been taken from a dog, which having caught one among the rocks, and eaten it, stained his mouth and beard with the precious liquor, which struck the fancy of a Tyrian nymph so strongly that she refused to give her hand to her lover, till he brought her a mantle of the same color. A shell fish is found in the seas of America, which much resembles the ancient *Purpura*, and is perhaps the very same. It abounds near Panama, and Nicoya, and has been reckoned the chief riches of the latter place. They are taken in the spring and constantly disappear a little before dog-days. On being rubbed one against another, they yield a kind of thick glair, resembling soft wax. But the purple dye is in the throat, and the finest part in a little white vein; which is so agreeable to Pliny's account of the ancient *Murex*, that one can hardly doubt of its being of the same species. The Caribbee islands have likewise their purple fish; which is called *Burgau*, being of the size of the end of one's finger, and resembling periwinkles. Its shell is of a brownish azure, and its flesh white. Its intestines are of a very bright red, the color of which appears through the body; and it is this that dyes the froth, which it casts when taken, and which is at first of a violet hue, bordering upon blue. To oblige these fishes to yield a greater quantity of froth, they lay them on a plate, and shake them against one another. The plate is immediately covered with froth, which is received on a linen cloth, and becomes purple as it dries. But, besides the Indian purple fish, others are found even on the coasts of Somersetshire and South Wales, where they were discovered in 1686. Reaumer observes, that this fish is a kind of *Buccinum*, a name given by the ancients to all fishes whose shells bore any resemblance to a hunting horn. The method of obtaining the tincture, according to the same writer, is thus: The shell, which is very hard, being broken, with the mouth downwards, so as not to crush the body, and the broken pieces being picked off, there appears a white vein, lying transversely in a little furrow next to the head of the fish. In this vein the purple matter is lodged, which laid on linen, appears at first of a light green color, and if exposed to the sun, soon changes into a deep green, in a few minutes into a sea-green, and in a few more into a blue; then it becomes a purplish red, and in an hour

more, of a deep purple. By washing in scalding water and soap, and drying it, the color ripens to a most beautiful and permanent crimson. The fish-heads are good food; and there are several kinds differing in size and shell, and also in the color of the tinging liquor. Some have been found on the coasts of Pictou.

NEW METHOD OF PRESERVING DEAD BODIES.

By Dr. Tranchina, of Palermo.

The results of this method were first published in the Sicilian journal, *La Cerere*, in May, 1834, but the actual process was first made known and openly practised by the author, on the eleventh of May, 1835, in the military hospital, *Della Trinita*, at Naples.

The operation consists in the injection into the body, through the carotid artery, (which carries blood from the heart to the neck and head,) of a solution, or mixture, of two pounds of arsenic in twenty-four pounds of water, or spirit of wine, colored with a little red lead or cinnabar, and in introducing the same solution into the abdominal cavity, by means of a trocar, in cases where putrefaction had made some progress. In some cases the solution is also introduced into the anus, nostrils, &c.

By this process the body is kept fresh, flexible, and without smell, and of its natural color, during more than two months; after which it gradually dries, hardens, becomes of a darker color, and can be preserved for years.

For this discovery, the great importance of which is obvious, Dr. Tranchina has been presented by the king of Naples with the sum of three thousand ducats, has been raised to the dignity of knight of the order of Francis I. and appointed military surgeon of the second class.

BALLOON VOYAGE.

An English paper gives the following account of a balloon excursion from London to the continent—which it appears was completely successful:

'On Monday, at one o'clock in the afternoon, Mr. Green, accompanied by Mr. Holland, Mr. Monck, and Mr. Mason, had the honor and the risk of taking their departure from Vauxhall gardens, for the bold purpose of crossing the British channel in a balloon. In the car was upwards of a ton of ballast, several gallons of brandy and wine, a large supply of coffee, cold fowls, ham, &c., an apparatus with unslacked lime for heating the coffee, and all appliances to insure comfort and prevent starvation and cold. There were also a supply of blue lights, stars, and other fireworks, to be let down at night, if the voyage were not accomplished before dark, in order to enable the æronauts to reconnoitre the country from their elevation, and choose the point of their descent, and a number of parachutes, in which letters were fastened, to be dropped at intervals on the shores of the continent, for the purpose of apprising the public of their transit, arrival, and safety—in a word, a more complete equipment cannot be conceived. On passing Dover, the velocity of the balloon did not exceed four or five miles per hour. A letter from Mr. Mason had been received in London, stating that the balloon descended safely near Coblentz, on Tuesday morning at seven o'clock, having travelled nearly six hundred miles in seventeen hours, crossing the English channel in an hour—being at the rate of thirty-four miles an hour.'

A MALAY, CRUSHED BY A SNAKE.

An enormous snake made its appearance at Golontala, on the island of Celebes, in 1799. A Malay prow making for that port, and finding she could not enter it before dark, came to anchor close in land before night. One of the crew went on shore in quest of betel-nut in the woods, and, on his return, lay down as it is supposed, to sleep on the beach, a common custom with people of that description. In the course of the night, his comrades in the boat heard his cries, and went immediately to his assistance, but too late to save his life, an immense snake having crushed him to death. These people, knowing that this kind of snake never diverts its attention from the prey which it has once seized until it is devoured, went boldly up to the monster, and at once cut its head off, carrying it and the body of the deceased on board their boat. The gentleman to whom we are indebted for this account, saw both on the next morning; and found on examining the latter, that the snake had seized the unfortunate man by the right wrist, where the marks of the animal's fangs were very distinct; and the mangled corpse bore evident signs of having been crushed by the snake twisting itself round the neck, breast, and thigh. The jaws of the snake, stiff as they were, were extended wide enough to admit a body the size of a man's head; and the whole length of the animal was estimated to be from twenty-eight to thirty feet, and equal in circumference to a moderate sized man.

NEW YORK, PHILADELPHIA, BALTIMORE AND WASHINGTON.

First Impressions of a foreign gentleman on recently visiting those cities.

Each of the places named, though resembling each other in many points, has its own distinctive marks. New York is the most bustling; Philadelphia the most symmetrical; Baltimore the most picturesque, and Washington the most bewildering.

At New York you pass hours with delight, under the trees on that beautiful breezy promenade, which the good taste of the citizens has preserved at the extreme point of their island. You follow the example of more illustrious travellers in doing justice to the ample tables of your hotels or friends, not forgetting to pass judgment on rock fish, American oysters, and above all, on shad fish, if in season. You enjoy many a stroll along the gay and cheerful pavement of Broadway, the principal street, running for miles through the heart of the city, with its handsome edifices, shops, and public buildings. You admire the commodious disposition of the interior of family mansions, with their folding-doors, clean, cool, Indian matted floors, and the groups of pretty faces by which they are adorned. You marvel at the incessant bustle and proofs of flourishing commerce, visible in all the narrower streets devoted to business, diverging right and left towards the North

and East rivers; and on the crowded slips and wharves you step into a steamboat and cross over to Brooklyn, or to the Jersey shore, where you may immediately bury yourself in the delicious walks of Hoboken, where the squirrel climbs as free, and apparently as undisturbed among the grape vines, as in the depths of the forest. You glance up the Hudson, which laves the grassy margin of the promenade, and see the water walled in by the perpendicular palisades and green shores of Manhattan island, covered with sloops and steamers—and own that in your brightest moments of fancy, you never dreamed of the creation of an equally glorious river, or a city whose position is more strongly marked by all those characteristics which are desirable in a great commercial emporium.

At Philadelphia—'the city of brotherly love,' you are struck with the regularity of the streets, their numberless handsome mansions, the lavish use of white and gray marble, pleasant avenues and squares, noble public institutions, markets, the abundance of water, and the general attention to dress visible in every one you meet. As in New York and Baltimore, you are surprised with the great proportion of handsome female faces, and delicately moulded forms which crowd the public walks and saloons, like so many sweet fresh May flowers. You make the usual visits, right or left, dictated by taste or reverence; including the romantic scene at Fairmount, and the spot where the celebrated treaty was concluded between Penn and the Delawares; and you taste that hospitality and frank unostentatious kindness which, with all their faults, proved or imputed, the American ever offers to a stranger who conducts himself courteously.

At Baltimore, 'the city of monuments,' snugly sheltered within its deep bay, and rising from an oblong basin of the Patapsco, toward the amphitheatre of wooded hills on the west, you marvel to hear how from a period of time within the memory of some yet living, the small village of a dozen houses has sprung up into a large capital, overspreading an extended area, abounding with noble public and private edifices and possessing an increasing commerce with every port under the sun. You admire the neat style of building, the bustle of the bay, the beauty of the shipping, and the lovely scenery in the environs. You welcome a southern climate in the perfume of many odorours flowers, and more than all, the delightful society for which Maryland is pre-eminent, frank, polished and unaffected. At Washington, 'the city of magnificent distances,' with the haste and eagerness of a new comer you visit the lions; ascend the capitol; criticise its architecture, whether properly authorised to do so or not—listen to the proceedings in either house for an hour or two—pay your respects to the President, visit the country seat and grave of the great and good Washington, get more and more bewildered with the study of the city, which seems to have been contrived with an eye for the especial advantage of the hackney coachmen; get squeezed out of all equanimity at a presidential levee, and retain your appetite, but lose your patience at a scrambling dinner at Gadsby's hotel.

BISON CHASE ON THE BIG PRAIRIE, AND LOSS OF COUNT DE POURTALES

The experienced and intelligent tourist, Latrobe, has recently published an account of his travels in South America. We have not examined the work, but have seen notices of it in some of the public prints. When he and his friend and comrade M. de Pourtales visited the United States, three or four years ago, they and our countryman, Washington Irving, joined company in an expedition of one of the commissioners and his party, sent out by the Government to arrange various matters connected with the Indian tribes, newly congregated on the western frontiers. The commission was stationed at Fort Gibson, about 800 miles up the Arkansas; and from this point parties were despatched to various quarters of the unexplored region of the west, with instructions to report, among other things, upon the practicability of any portion of it being set aside for the occupation of the Indian tribes, still to be removed. They penetrated the remote hunting grounds of the Indians, and more than once met with the trails and camp-fires of the Osage warriors. As might have been expected, they witnessed many novel and extraordinary scenes, and often encountered fatigue, hardship and peril. The following is an account of the Bison chase, which they had in the Big Prairie, on the banks of the Great Canadian, and in which chase they lost de Pourtales. This interesting description is from Latrobe.

'It was about noon, when we got out of the wood, and saw before us the free and wide horizon of the Prairie. Our main object was now to hunt and cure sufficient beef to support us on our return, through a gameless country, towards the fort. And after an hour's advance, the commissioner, Washington Irving, Pourtales, and myself, accompanied by Battie, drew off from the main body towards the Great Canadian, with a general idea of the quarter in which we should eventually find our companions and their camp. We had not ridden many miles before we discovered divers groups of bison and wild horses, scattered at a greater or less distance over the wide undulating country. Battie proposed we should halt, while he attempted to noose a horse out of a group about two miles to the westward; and on the instant, laying his rifle across the saddle of the commissioner's horse, he dashed off at a wild gallop, and soon neared the herd; when, after appearing and disappearing alternately in mad career, as they fled over the broken surface, both the pursuer and the pursued were lost sight of. We had meanwhile been moving quietly on his trail, when, coming to one of the hollows, filled with low bushes, frequent on the edges of the prairie, two old bison bulls issued from their covert and began to run up the opposite rise. This was too great a temptation for Washington Irving and Pourtales, who were a hundred feet in advance; and both, after a moment's hesitation, gallopped after them; I set spurs to my horse and followed. A scamper of a mile over the broken surface of the plain brought me in contact with one of the bulls, which had seemingly escaped pursuit by a sidelong course. It appeared probable that neither of my companions had as yet ventured near enough to take effectual

aim; for though this powerful and terrible animal will put forth all his strength to escape the pursuit of man, yet if brought to bay, or approached too near, he is greatly to be dreaded, in the moment of savage ire and desperation.; and if great caution be not used, by horse and rider, one or both may fall victims to their temerity, unskilfulness, or folly. Though my horse was both strong and generous, I had received many warnings about the possibility of his taking fright, as he had never before hunted the bison; and besides, there was something in the immense shaggy head, mane, and beard of my game—the deep eye that gleamed like a coal of fire from beneath the curls, and his unwieldly bulk, that made me rein in, and rather follow than hunt him; nay, as often, as shambling on, he turned his head and glanced revengefully on me, I thought it might be more convenient to be off, lest he might take it into that capacious head of his to hunt *me*. However, my blood was excited and I followed him, to watch the effect on the horse, who in fact showed that he entered into the chase with all his heart; till the bison tumbled head over heels into a deep, red, muddy creek, and waddled through; when I thought I might leave him without compromising my valor. A second chase, which Pourtales and myself sustained in company, with laudable perseverance, in a hard run of some miles, ended alike unsuccessfully to both of us. The herd of nine bulls which we had followed, split into several small bands. My companion pursued those on the right and I continued to gallop after a single bison, which I had selected as the object of my attack. After a headlong chase up one swell and down another, over broken ground and hollows filled with water, and deep red clay, into which my unwieldy quadruped precipitately plunged, with such unhesitating good will, that I could not but imitate his example, however little I should have fancied it at another moment. He led me into a deep marsh; where spent and breathless, he was brought to bay and turned upon me. Here we bothered one another a good deal by our several manœuvres for attack and defence, and though I did my best to kill him, I failed to do so. Two of my balls had struck him on the hind quarters as he ran, but seemed only to act as a spur, for he merely gave his tail a flourish, glanced round at me, and scampered on. Unless you strike the animal at a given spot, below the hump and behind the shoulder, or on the spine, such is the elasticity of the muscles, that the ball seems to be thrown away; and so all mine appeared to be. Extricating myself from the marsh, I left him to his fate and rejoined my two comrades who had both hitherto been unsuccessful. Battie had also returned from a fruitless chase. He had noosed a horse, but in some of the subsequent evolutions necessary to secure his prize, he lost his hold on the lasso, and the animal galloped off. At a later hour he achieved the recovery of the lasso, but at the expense of the animal's life. In attempting to "crease" it, that is to touch it with a ball on the back of the neck, which stuns without materially injuring the animal, he did what many a hunter does in attempting that delicate operation—he shot it dead. Finding we were bent on retrieving our fortunes, he directed our attention to a far more numerous herd of bison than we had yet seen. They were at such a distance on the prairie, that they looked like a dotted line under the horizon; but nevertheless, we determined to go in chase. It must be recollected that none of us had been at the camp, and we had but a general idea of the position of the creek upon which it was probably to be found. We knew it had been the intention of our companions to pitch it on one of the streams rising on the prairie, and running to the northward, while the Great Canadian lay about eight miles to the south of us. Fixing on certain land-marks, and especially on the particular aspect of the stream, by following which he hoped to come to our night quarters, we turned to the opposite point of the compass and agreed to get if possible to the south of the herd, before we approached them, so that the probable direction of our chase to the north might bring us nearer to the camp, wherever it might be, rather than remove us from it. After a ride of a few miles we found ourselves in near proximity to the herd, and almost in the desired position, when two bulls at a distance from the rest took the alarm, and beginning to run, the whole body, which might consist of 50 head, got wind of us, and put themselves in motion. The bison-bull has a most ludicrous movement in galloping, owing to the great disproportion of the head and shoulders, compared with the hind quarters, but for all that he shuffles on at a considerable pace. The cow is much fleeter, and a horse must gallop well that keeps steadily up with her. We had a fine dashing run of a mile before we neared them. It was my fortune to take the first chance for a shot, as, spurring my horse past an overgrown bull panting in the rear, I approached the centre of the herd, and came within proper distance of the animal, bringing it to the ground by a ball which broke the spine. My companions came to a momentary halt at the fall, but recollecting themselves, spurred forward after the flying troop. A mile further Mr. Irving had his short-lived hunting mania satisfied, as a ball from his gun brought down a second of the herd; and halting as was natural by his game, Pourtales was then left alone in chase, which he continued with undaunted perseverance.

I had alighted to despatch the first, and possess myself of the usual trophies, the principal of which is the tongue. To the trample and rush of the chase, a dead silence had succeeded, and I was occupied with my labors, when a slight yelp drew my attention, and, raising my eyes, I saw at a few hundred feet distance, the head of a grey wolf pushed cautiously upwards through the grass. This apparition was followed in the course of quarter of an hour, by as many as half a dozen of a similar character, appearing, as though by magic, on the verge of a circle which they formed around one; till having secured my trophy, and being convinced that assistance from the camp was out of the question, and that I must leave my prey where it had fallen, I rode off. I then could see the wolves stealing forward cautiously to their meal. The hunter is the wolf's and vulture's provider on these great plains; and they know it, and follow his trail on the buffalo-range, with the certainty of having their share of the spoil. After rejoining Mr. Irving, whom I found

standing sentinel over his spoil, we did not immediately recollect that the early twilight of a dull autumnal day was drawing on, and that we had still to find our way to the camp. But where was Pourtales? Before us were the deeply indented tracks of the herd, but they and their solitary pursuer had long ago vanished over the remotest swell of the horizon. We waited and waited, and conjectured, till we dared wait no longer, and then, having looked carefully around and recognized some of our landmarks, we moved slowly northward, pausing often to scan the horizon, and ascending each elevation to look out for two objects of interest, our camp and our young friend. We did not find the camp without considerable difficulty, about seven miles from the place where our bison had fallen, and that long after twilight had deepened into night. Here we found the commissioner safe and sound, but contrary to our firm expectations, Pourtales was absent, and had neither been heard of nor seen by any of the hunting parties. The bugle was sounded again and again, guns were fired from time to time, and larger fires than ordinary kept up, all without success; till tired with conjecture, and knowing that no effort of ours could avail any thing till day-light, we were constrained to give up all hopes of seeing him that night. The day's hunt had been a successful one, and including our own spoil, we counted ten or eleven bisons killed. Abundance of meat had been brought into camp—sufficient indeed, to last the whole company for a month, if properly cured and stored; and on the prairie lay the remaining masses, over which the wolves were holding their stormy jubilee. One or two of these huge animals had been killed within half a mile of the camp, and a large number of them seemed to have been congregated to the feast. Such a hubbub of detestable sounds as filled our ears, that and the following night, I think I never heard before. It was now a faint melancholy sound; and then the whole pack would break out into a full cry. You could distinguish the sharp yell of the prairie-wolf rising over the long continued howl of the large grey species, as they fed and snarled, and fought together through the long dark night. I remember it well; for the absence of my companion hung heavy on me and prevented much sleep, and as Battie and I sat over the fire in the dead of the night, that melancholy concert sounded dolefully in my ears.

(To be concluded in our next.)

SAGACITY OF THE PARTRIDGE.

A gentleman one day riding over his farm, superintending his ploughmen, observed a partridge glide off so near the feet of one of the plough horses that he thought the eggs must be crushed. This, however, was not the case, but he found that the bird was about hatching, and that several of the eggs were beginning to crack. The bird returned to her nest the instant he left the spot. It was evident that the next round of the plough must turn the nest into the furrow. His astonishment was great when, with the returning plough, he came again to the spot and saw the nest, but found that the bird and all the eggs were gone. Under an impression that she must have removed her eggs, he made search, and before he left the field he found her sitting under the hedge, upon twenty-one eggs, and she afterwards, from that hatching, brought up nineteen birds. The round of the plough had occupied about twenty minutes, in which time (probably assisted by the cock bird) she had removed the twenty-one eggs a distance of about forty yards.

DERMODY.

The prematurity of the poetic talents of this bard of Erin, stands perhaps unrivalled in the history of modern times. Among other poems he published one entitled 'The Fate of Genius.' In that production, he was not aware, probably, that he wrote his own epitaph. But such it proved to be. After meeting with much vicissitude of fortune, in which evil predominated over good, he perished in beggary and wretchedness. He was buried at the expense of those friends, who, during life, had frequently supplied his wants; and over his tomb they erected a monument with this inscription, from

'THE FATE OF GENIUS.

No titled birth had he to boast:
Son of the desert, Fortune's child;
Yet, not by frowning Fortune cross'd,
The muses on his cradle smil'd.

He joy'd to con the fabling page
Of prowess'd chiefs, and deeds sublime;
And e'en essay'd in infant age,
Fond task! to weave the wizard rhyme.

And though fell passion sway'd his soul,
By prudence seldom ever won,
Beyond the bounds of her control,
He was dear Fancy's favor'd son.

Now a cold tenant does he lie,
Of this dark cell, all hush'd his song:
While friendship bends, with streaming eye,
As by his grave she wends along,

On his cold clay lets fall a holy tear,
And cries, "though mute, there is a poet here.

FIRST STEAMBOAT IN THE WEST.

The New Orleans.—Many things combined to make 1811 the *annus miribilis* of the West. During the earlier months, the waters of the principal rivers overflowed their banks, and the whole country was in many parts covered from bluff to bluff. Unprecedented sickness followed, a spirit of change pervaded the very inhabitants of the forests. Countless squirrels obeying some great and universal impulse, which none can know but the Spirit that gave them being, left their reckless and gambolling life, and ancient places of retreat in the north, and were seen pressing forward, by tens of thousands, in a deep and sober phalanx to the south. No obstacles seemed to check this extraordinary and concerted movement: the word had been given them to 'go forth,' and they obeyed it, though multitudes perished in the broad Ohio, which lay in their path.

The splendid comet of this year long continued to shed its twilight over the forests, and, as the autumn drew to a close, the whole valley of the Mississippi, from the Missouri to the Gulf, was shaken to its centre by earthquakes.

It was at this epoch, in which so many natural phenomena were combining to spread wonder and

awe, that man too, in the exercise of that power with which his Creator has endowed him, was making his first essay in the West, of an art, the natural course and further perfection of which were destined to bring about yet greater changes than those effected by the flood and the earthquake; and while the latter was agitating the surface, the very first steamboat was seen descending the great rivers, and the awe-struck Indian on the banks beheld the 'Pinelore,' or 'Fire-Canoe' flying through the turbid waters.

From the battle of the Miami, up to this epoch, the number of inhabitants in Kentucky, Tennessee, Ohio, and the adjoining States, had gone on increasing with astonishing rapidity, and swarms were pressing forward from the new settlements even beyond the Mississippi. The banks of the Ohio and its tributaries were covered with farms; and rafts, flat-boats, and barges of every description, laden with the produce, floated upon its wide surface toward New Orleans, then as now the grand market of the West.

Besides barges and vessels of heavy burden, which made long annual voyages to and from that city, the river was frequently covered with thousands of whimsical machines, for they could hardly be called boats—most of which have now disappeared. The greater part of these rude constructions were broken up, sold, or abandoned when the end of the voyage was attained; after which the settler returned to his farm, ten or fifteen hundred miles off, as he could. From seventy to eighty days and upwards were consumed in thus effecting the long and monotonous voyage from Pittsburg to New Orleans. But now a change was to be wrought in the facilities of communication between countries so far apart, upon which no one could have calculated, and the vast results of which are not yet fully developed. The complete success attending the experiments in steam navigation made on the Hudson and the adjoining waters previous to 1809, turned the attention of the principal projectors to the idea of its application on the rivers of the West; and in April of that year, Mr. Roosevelt of New York, pursuant to an agreement with Chancellor Livingston and Mr. Fulton, visited those rivers, for the purpose of forming an opinion whether they admitted of steam navigation or not. At this time two boats, the 'North River' and the 'Clermont,' were running on the Hudson. Mr. R. surveyed the rivers from Pittsburg to New Orleans, and his report being favorable, it was decided to build a boat at the former town. This was done under his direction, and in the course of 1811, the first boat was launched on the Ohio. It was called the 'New Orleans,' and intended to ply between Natches and the city whose name it bore. In October it left Pittsburg for its experimental voyage. No freight or passengers were taken, the object being merely to bring the boat to her station. Mr. R. his wife and family, Mr. Baker, the engineer, Andrew Jack, the pilot, and six hands, with a few domestics formed her whole burden. There were no woodyards at that time, and numerous delays were unavoidable.

In his previous reconnoitre, Mr. R. had discovered two beds of coal about 120 miles below the Rapids at Louisville, and he now took tools to work them, intending to load the vessel with the coal, and to employ it as a fuel instead of frequently detaining the boat while wood was procured from the banks.

Late at night on the 4th day after quitting Pittsburg, they arrived in safety at Louisville, having been but 70 hours descending upwards of 700 miles. The novel appearance of the vessel, and the fearful rapidity with which it made its passage over the broad reaches of the river, excited a mixture of terror and surprise among many of the settlers on the banks, among whom the rumor of such an invention had never been heard; and on the unexpected arrival of the boat before Louisville, in the course of a fine still moonlight night, the extraordinary sound which filled the air as the pent-up steam was suffered to escape from the valves, on rounding to, produced a general alarm, and multitudes in the town rose from their beds to ascertain the causes. The small depth of water in the Rapids prevented the boat from pursuing her voyage immediately; and during the consequent detention of three weeks, in the upper part of the Ohio, several trips were successfully made between Louisville and Cincinnati. At length the waters rose, and in the last week of November the voyage was resumed, the depth of water barely admitting her passage.

When they arrived about five miles above the Yellow Banks, they moored opposite to the first vein of coal, which was on the Indiana side, and had been purchased in the interim. They found a large quantity already quarried to their hand and conveyed to the shore by depredators, who had not means to carry it off; and with this they commenced loading. While thus engaged our voyagers were accosted in great alarm by the squatters of the neighborhood, who inquired if they had not heard strange noises on the river and in the woods in the course of the preceding day, and perceived the shores shake—insisting that they had repeatedly heard the earth tremble.

Hitherto nothing remarkable had been perceived. The following day they continued their monotonous voyage in those vast solitudes. The weather was oppressively hot; the air misty, still and dull; and though the sun was visible, like an immense and glowing ball of copper, his rays hardly shed more than a mournful twilight on the surface of the water. Evening drew nigh, and with it some indications of what was passing around them became evident. And as they sat on deck, they ever and anon heard a rushing sound and violent splash, and saw large portions of the shore tearing away from the land and falling into the river.

It was an awful day. You could have heard a pin drop on deck. The crew spoke little. They noticed that the comet had disappeared; and every one on board was thunderstruck.

The second day after leaving the Yellow Banks, the sun rose over the forests, the same dim ball of fire, and the air was thick, dull, and oppressive as before. The portentous signs of this terrible natural convulsion increased. Alarmed and confused, the pilot affirmed he was lost—as he found the channel every where altered; and where he had hitherto known deep water, there lay numberless trees with

their roots upward. The trees were seen waving and nodding on the banks, without a wind; but the adventurers had no choice but to continue their route. Towards evening they were at a loss for a place of shelter. They had usually brought too under the shore, but every where they saw the high banks disappearing, overwhelming many a flat boat and raft, from which the owners had landed and made their escape. A large island in mid-channel, which was selected by the pilot as the better alternative, was sought for in vain, having disappeared entirely.

Thus in doubt and terror they proceeded hour after hour, till dark, when they found a small island, and rounded too, mooring to the foot of it. Here they lay keeping watch on deck during the long autumnal night, listening to the sound of the waters which roared and gurgled horribly around them; and hearing from time to time the rushing earth slide from the shore, and the commotion of the falling mass as it was swallowed up in the river. The lady of the party was frequently awakened from her restless slumber, by the jar of the furniture and loose articles in the cabin, as in the course of the night the shock of the passing earthquake was communicated from the island to the bows of the vessel. The morning dawned and showed they were near the mouth of the Ohio. The shores and channel were now equally unrecognizable—for every thing seemed changed. About noon that day they reached New Madrid. Here the inhabitants were in the greatest consternation and distress. Part of the population had fled in terror to the higher grounds, others prayed to be taken on board, as the earth was opening in fissures on every side, and their houses hourly falling around them. Proceeding thence they found the Mississippi, at all times a fearful stream, unusually swollen, turbid and full of trees; and after many days of extreme danger, though they perceived no more of the earthquakes, they reached their destination at Natches, at the close of the first week in January, 1812, to the utter astonishment of all—the escape of the boat having been considered an impossibility. Such was the first voyage of the steamer in the West, at a period when you floated for 3 or 400 miles on the rivers without seeing a human habitation. The natural convulsion, which commenced at the time of her descent, has been but slightly alluded to, but will never be forgotten in the history of the West; and the changes wrought by it throughout the whole alluvial region through which the Ohio and Mississippi pour their waters, were perhaps as remarkable as any on record. We hear less of its effects because the country in which they occurred was of such vast extent and so thinly peopled. That part of the alluvial lands which is contiguous to the point of junction of the two rivers, and especially the vicinity of New Madrid, seems to have been the centre of the convulsion. There during 1811 and 1812, the earth broke into innumerable fissures, the church yard, with its dead, was torn from the bank, and engulfed in the stream. Thousands of acres with their gigantic growth of forest and cane were swallowed up, and lakes and ponds innumerable formed. The earth in many places burst suddenly open, and jets of sand, mud and water were projected into the air. The beds of the giant streams seemed totally overturned, islands disappeared, and in some parts the courses of the river were completely changed. Great inundations were the consequence. The clear waters of the St. Francis were obstructed; the ancient channel destroyed, and the river spread over a vast tract of swamp. In many places, the gaping earth unfolded its secrets; and the bones of the gigantic Mastodon and Ichthyosaurus, hidden within its bosom for ages, were brought to the surface. Boats and arks without number, were overturned; some buried by the falling in of the banks, others dragged down with the islands to which they were anchored; and you may still meet with those who were on the mighty river of the West, at this period, when the whole stream ran towards its sources for an entire hour, and then, resuming its ordinary course, accelerated its motion, and hurried them, almost helpless, into its whirling surfaces toward the gulf.

JOHN DUNCAN OF GLASGOW.

Tambouring Machine. The tambouring of muslins, or the art of producing upon them ornamental flowers and figures, has been known and practised for years and years in Britain, as well as other parts of the old world; but it was not long prior to 1790 that it became an object of general manufacture in the west of Scotland. At first it was under the direction of foreigners; but their aid was not necessary for any considerable period, and it speedily extended to such a degree as to occupy either wholly or partially more than twenty thousand females. Many of these laborers lived in the neighborhood of Glasgow, which was the chief seat of the manufacture, but others were scattered through every part of Scotland, and supplied by agents with work and money. In Glasgow, a tambourer of ordinary skill, could not in general earn more than five or six shillings a week, by constant application; but to a laboring artisan, who had several daughters, even these low wages formed a source of wealth. At the age of five years, a child capable of handling a needle, was devoted to tambouring, even though it could not earn more than a shilling or two a week; and the consequence of this was, that female children were taken from school, and rendered wholly unfit for any social or domestic duty. The tambouring population was therefore of the worst kind, and it must have been regarded as a blessing rather than as a calamity, when the work they performed was intrusted to regular machinery. Mr. John Duncan of Glasgow, the inventor of the tambouring machinery, was one of those unfortunate individuals, who benefit their species without benefitting themselves, and who died in the meridian of life the victim of poverty. He conceived the idea of bringing into action a great number of needles at the same time, in order to shorten the process by manual labor, but he at first was perplexed about the diversification of the pattern. This difficulty, however, he soon surmounted by employing two forces at right angles to each other, which gave a new force in the direction of the diagonal of the parallelogram, whose sides were formed by the original forces. His first machine was very imperfect, but after two

years' study he formed a company, at whose expense six improved machines were put in action, and who secured the invention by patent. At this time the idea of rendering the machine automatic had scarcely occurred to him; but he afterwards succeeded in accomplishing this important object, and the tambouring machines were placed under the surveillance of a steam-engine. Another patent was taken for these improvements, the minute and interesting account of which, by the inventor himself may be found under the article '*Chain-work*' in the Edinburgh Encyclopedia. The muslin to be tamboured was suspended vertically in a frame, capable of being moved both in a vertical and horizontal direction. Sixty or more needles lying horizontally, occupied a frame in front of the muslin web. Each of these working needles, as they are called, was attended by a feeding needle, which, by a circular motion round the working needle, lodged upon the stem of the latter, the loop of the thread. The sixty needles then penetrated the web, and in order that they might return again without injuring the fabric, the barb or eye of the needle, which resembled the barb of a fishing hook, was shut by a slider. The muslin web then took a new position by means of the machinery that gave it its horizontal and vertical motion, so that the sixty needles penetrated it at their next movement, at another point of the figure or flower. This operation went on till sixty flowers were completed. The web was then slightly wound up, that the needles might be opposite that part of it, on which they were to work another row of flowers.

The flowers were generally at an inch distance, and the rows were placed so that the flowers formed what are called diamonds. There were seventy-two rows of flowers in a yard, so that in every square yard there were nearly four thousand flowers, and in every piece of ten yards long, forty thousand. The number of loops or stitches in a flower varied with the pattern, but on an average there were about thirty. Hence the number of stitches in a yard were 120,000, and the number in a piece is 1,200,000. The average work done in a week by one machine was fifteen yards, or sixty thousand flowers, or 1,800,000 stitches; and by comparing this with the work done by one person with the hand, it appears that the machine enabled one individual to do the work of *twenty-four* persons.

CHARACTER OF THE PEOPLE OF NEW ENGLAND.

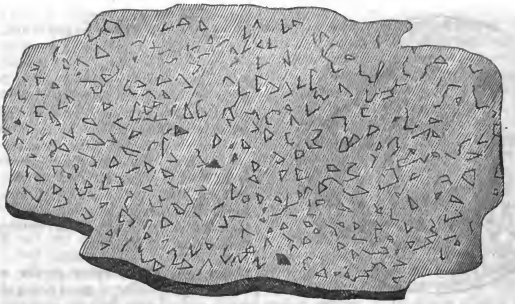
By an Englishman.

Eastern States. The manners and habits of this great division of the American people are strikingly distinct from those of their fellow citizens of the South. The character of the inhabitants of New England for diligence, shrewdness and all those matter-of-fact talents which tell in a country like this, where every man is struggling to get and maintain an independence, is well known. They are speculative, at the same time that their caution, clear-sightedness, and indomitable perseverance, generally insure success. In politics, their practical conduct is strikingly opposed to that of the South. They have often, and not without reason, been compared to the northern inhabitants of England, while they may be said to possess all the steadiness and prudence of the Scotch, with a yet greater degree of ingenuity. Like the Scotch, they foster education; like the Scotch, they are inclined to more severe forms of religious discipline and worship; like the Scotch, they are fearfully long-winded; like them they are gadders abroad, loving to turn their faces southward and westward, pushing their fortunes wherever fortunes are to be pushed, and often in places and by-shifts where no one ever dreamed that fortunes were to be gained. They may be found supplanting the less energetic possessor of land and property in every State of the Union. They have a finger upon the rim of every man's dish, and a toe at every man's heel. They are the pedlers and schoolmasters of the whole country; and though careless of good living abroad, when at home and at ease they are fond enough of 'comforts.' Nowhere is the stomach of the traveller or visitor put in such constant peril as among the cake-inventive house-wives and daughters of New England. Such is the universal attention paid to this particular branch of epicurism in these States, that it may well be suspected that some of the pilgrim fathers came over to the country with the cookery book under one arm and the Bible under the other; though under more than one code of the ancient laws, orders were issued that no person should make 'cakes or buns, except for solemn festal occasions, such as burials and marriages.' There are but few boys among them; many of their children seem to start up at once to puny men. They are not a fun-loving nation, nor have they great reverence for holidays. Jokes are an abomination to many of them. Though in common with all Americans, they are proud and boastful of their claims to unlimited freedom, they are fond of imposing grievous burdens upon the inferior order of animals within their power; and you see horses, cows, pigs and geese, laboring under the most singular yokes imaginable! The faults allied to this kind of character are easily recognizable. Where education and religion have had their proper influence, and high-mindedness and innate sense of honor exist, all this shrewdness and strength of character will add to the respectability of the possessor and to the good of the social circle. But where they are allied to meanness and littleness of soul, they must bear the stamp of sordid and low cunning in petty transactions, and of uncompromising, ungenerous aggrandisement, and selfishness in larger operations.

Hence the diverse terms in which the yankee or eastern man is spoken of, and the praise and obloquy with which his character is alternately drawn. One may laugh at the thousand and one tales related of the extravagant ingenuity and cunning of the Yankee pedlers, tramping through every nook in the Union; and very easily conceive that there is many an arrant rogue among them, and many an arrant goose among their customers!

CHINESE GONG.

The sound of a good gong may be heard at a distance of two or three miles, if it be struck with a wooden mallet, covered with leather.



Fac Simile of Goshen Graphic Granite.

GRAPHIC GRANITE.

In this variety, which consists of quartz and feldspar only, the ingredients are usually in lengthened prisms, so that the cross fracture presents the appearance of written characters. It is the pegmatite of the French geologists. Dr. Maccullock thinks it occurs exclusively in veins. But that is not the case in this country, unless every protruding mass of granite be regarded as a vein. In the coarser varieties of our granite, a portion of the mass—generally a small portion—is graphic; and there is no well marked line of distinction between the varieties. This is particularly the case in respect to the pseudo-morphous granite, so common in Conway, Goshen, Williamsburgh, and Westhampton. In Goshen a few years since, I found, says Professor Hitchcock, a specimen which afforded so perfect an example of the graphic arrangement in this rock, that I thought it deserved to have its surface copied.

We have endeavored to give a fac-simile of this piece of granite in the above engraving. The specimen which it represents, is certainly a remarkable one, and none can examine it without being struck with its hieroglyphical appearance.

BOSTON AND ITS VICINITY.

The city of Boston is rapidly and permanently increasing in population and wealth. Business of all kinds is becoming, each successive year, more and more extensive and flourishing. Mechanics, artificers and operatives, of nearly every description, are in constant request. They are paid the highest wages for their services, and what is more, they are respected, and generally sure to receive their money punctually, as fast as they earn it. Those who are skilful, industrious, temperate and frugal, seldom fail to secure a competent estate, if not a handsome independency, for themselves and families; while those who are not, finding neither countenance nor support from the citizens, either learn to follow the example of the active, honest and thrifty, or are compelled to seek another place of residence. Boston has emphatically been styled the worst place in the Union for a rogue or a vagabond; and with similar emphasis, it has been pronounced one of the best for men of talent, education, genius, integrity, and application. New stores and houses are being commenced or finished on almost every vacant spot in the metropolis, and yet the demand for suitable shops and tenements altogether outstrips the supply. The city is now fast extending, as it were, into Roxbury, Cambridge, Charlestown and Chelsea; and the prospective plan for its enlargement and improvement, is understood to embrace large portions of each of those towns. All these villages too, are already 'in a high and palmy state.' They are filled with beautiful cottages, gardens, country seats and villas; and are continually augmenting in public and private buildings and inhabitants. Chelsea in particular has prospered to an extraordinary degree during the last three or four years, and from the purity of its water, the healthfulness and eligibility of its situation promises to be a most important part of the city itself. In a short time, the several towns we have named will all be united into one; and Boston will then cover more than quadruple its present surface, and be better entitled than ever to the appellation, it long since received, of 'the great capital of New England.'

PRESENTS MADE TO THE EMPEROR OF CHINA BY THE BRITISH EMBASSY OF 1792.

One orrery, a reflecting telescope, a celestial and a terrestrial globe, several chronometers, an air-pump, a machine exhibiting the mechanic powers, five pieces of brass ordnance, several muskets, pistols, and sword-blades, of exquisite workmanship, a complete model of a first rate man-of-war of 110 guns, numerous ornamented vases, various kinds of earthenware, a large burning glass, a pair of magnificent lustres, specimens of the manufactures of Great Britain in wool, cotton, steel and other metals, representations of several cities, towns, churches, seats, gardens, castles, bridges, lakes, volcanoes, and antiquities, of battles by sea and land, dock-yards, places for building ships, horse-races, bull-fights, and of most other objects curious or remarkable in the British dominions and other parts of Europe; also portraits of the royal family and of some of the most eminent persons of the time.

Maine Coat of Arms.

MAINE.

Here is a fac simile of the 'Armorial Bearings' of the State of Maine—formerly 'the District' of that name—and which became independent of Massachusetts in 1820. This is the State so famous for 'townships,' streams and waterfalls, pine woods and granite mountains, village sites, lime quarries, and fine farming lands; and where adventure and speculation have been so rife and triumphant, for several years past. The people of Maine have long been distinguished for their hardihood and enterprise, their shrewdness, economy, industry, and public spirit. 'Go ahead' is almost an universal, if not an old motto with them; and they live up to the very letter of it, with a fixed and persevering purpose really remarkable. If they fail in one undertaking, they are ready at once to turn their hand to another; and 'although they may encounter reverses to-day, like 'true yankees,' they are 'up and doing' to-morrow.' Nothing in fact discourages them. 'Go ahead' they cry; and ever prepared to act, 'go ahead' it is. With such habits and dispositions, and under the peculiar circumstances of their situation, it is not at all surprising, that comparatively speaking, they should be in a most gainful and promising condition. Indeed, more and larger fortunes have probably been amassed in Maine, since 1829, than have been won, in the like space of time, in any other State of the Union. But this money-making on a great scale, they say, is but in its infancy with them. They have but just entered upon the threshold of 'such matters.' Means and opportunities almost innumerable still remain; and though now and then there may be a sort of stagnation in the world of adventure, still there must be advancement as well as retrogression; and fortunes upon fortunes are yet in store for those who are on the alert and seek them. 'There is a tide in the affairs of men, which, taken at the flood, leads on to fortune;' and this tide, they aver is but upon 'the incipient flow' in Maine. It is true, heretofore the inhabitants have been somewhat behind their neighbors in internal improvements; for like the people of New England generally, in respect to the great modern facilities for intercommunication, they have been tardy in beginning; but like them too, having once commenced and got fairly under way, there is no stopping them. You might as well attempt to stay the impetus of the 'high wind.' Their course is alike onward, sure and irresistible. Embracing a vast area of valuable territory, with extensive public domains and superabundant natural resources, Maine is destined, by the aid of a liberal and fostering policy on the part of her home government, in regard to all important public undertakings, and by a proper, not to say generous distribution of the common funds towards the support of the literary and scientific institutions of the land, by this aid and distribution, *and not without*, Maine we repeat, is destined, to flourish more and more in population and wealth, and to acquire a powerful ascendency among her sisters of the national confederacy.

GREAT RAILWAY FROM QUEBEC TO BELFAST.

The contemplated railway from the capital of the British possessions on this continent, through the interior of the State of Maine, to Belfast, on the Atlantic ocean, is one of the gigantic enterprises of the present age. When this long and loudly demanded public structure, which is to unite, as it were, the open seas with the upper waters of the St. Lawrence, bring Quebec in effect to Belfast, and render the latter place the second metropolis in New England, shall have been completed, the citizens of Maine will possess one of the most profitable, as well as stupendous rail-roads in America.

RATTLE-SNAKES IN SUTTON PURGATORY, MASS.

The whimsical name of purgatory is applied to several extensive fissures in the rocks of New England. The most remarkable cave of this kind is in Sutton, 3 1-2 miles south-east of the congregational meeting-house. It is in gneiss, nearly half a mile long, in most parts partially filled by the masses of rock, that have been detached from the walls. The sides are often perpendicular, and sometimes seventy feet high; being separated from each other about fifty feet. This is an immense chasm. The inclination along the fissure corresponds with that which is common in the region around; viz. about twenty-five degrees N. E. In the vicinity of the fissure, however, the rocks are often exceedingly broken into fragments; and this circumstance indicates some early subterranean convulsion. Visitors to the Sutton Purgatory, says Professor Hitchcock, should recollect such broken rocks furnish a fine retreat for the rattle-snake. I met with one, continues this writer, among the *debris* of that place. But as he kindly warned me that I was trespassing on his territory, I thought it ungenerous to attack him, and we parted on good terms, mutually willing to be rid of each other's company.

WOMEN OF ONE TOE.

Every body has heard of the small feet of the ladies of China. But it is not so generally known that they commonly have but *one toe*. This is, however, the fact. The great toe of the females of the first rank, and of some of the inferior classes also, is the only one left to act with freedom; the rest are doubled down under the foot in their tenderest infancy, and retained by compressed and tight bandages, till they unite with, and are buried in the sole-

AUDUBON'S INTRODUCTION TO BEWICK.

In the first volume of this Magazine the reader will find a portrait of Thomas Bewick, the only engraving of him ever published we believe in this country. To the picture is appended a memoir of that self-taught and distinguished artist. We now have the pleasure of adding nearly the whole of Mr. Audubon's interesting account of his introduction to him.

Through the kindness of Mr. Selby of Twizel House in Northumberland, I anticipated the pleasure of forming an acquaintance with the celebrated and estimable Bewick, whose works indicate an era in the history of the art of engraving on wood. In my progress southward, after leaving Edinburgh in 1827, I reached Newcastle upon Tyne about the middle of April, when nature had begun to decorate anew the rich country around. The lark was in full song, the blackbird rioted in the exuberance of joy, the husbandman cheerily plyed his healthful labors, and I, though a stranger in a foreign land, felt delighted with all around me. Bewick must have heard of my arrival at Newcastle before I had an opportunity of calling upon him, for he sent me by his son the following note:—'T. Bewick's compliments to Mr. Audubon, and will be glad of the honor of his company this day at tea, at six o'clock.' These few words at once proved to me the kindness of his nature, and, as my labors were closed for the day, I accompanied the son to his father's house. As yet I had seen little of the town, and had never crossed the Tyne. Passing over the river by a stone bridge of several arches, I saw by the wharves a considerable number of vessels, among which I distinguished some of American construction.

At length we reached the dwelling of the Engraver, and I was at once shown to his workshop. There I met the old man, who, coming towards me, welcomed me with a hearty shake of the hand, and for a moment took off a cotton night-cap, somewhat soiled by the smoke of the place. He was a large stout man, with a large head, and with eyes placed farther apart than those of any man I have ever seen:—a perfect old Englishman, full of life, although 74 years of age, active and prompt in his labors. Presently he proposed showing me the work he was at, and went on with his tools. It was a small vignette, cut on a block of boxwood, not more than three by two inches in surface, and represented a dog frightened at night by what he fancied to be living objects, but which were actually roots and branches of trees, rocks and other objects, bearing the semblance of men. This curious piece of art, like all his works, was exquisite, and more than once did I feel strongly tempted to ask a rejected bit, but was prevented by his inviting me up stairs, where, he said, I should soon meet all the best artists of Newcastle. There I was introduced to the Misses Bewick, amiable and affable ladies, who manifested all anxiety to render my visit agreeable. Among the visitors I saw a Mr. Goud, and was highly pleased with one of the productions of his pencil, a full length miniature in oil, of Bewick, well drawn and highly finished. The old gentleman and I stuck to one another, he talking of my drawings, and I of his wood-cuts. Now and then he would take off his cap, and draw up his gray worsted stockings to his nether clothes; but whenever our conversation became animated, the replaced cap was left sticking as if by magic to the hind part of his head, the neglected hose resumed their downward tendency, his fine eyes sparkled, and he delivered his sentiments with a freedom and vivacity which afforded me great pleasure. He said he had heard that my drawings had been exhibited in Liverpool, and felt great anxiety to see some of them, which he proposed to gratify by visiting me early next morning along with his daughters and a few friends. Recollecting at that moment how desirous my sons, then in Kentucky, were to have a copy of his works on quadrupeds, I asked him where I could procure one, when he immediately answered 'Here,' and forthwith presented me with a beautiful set. The tea-drinking having in due time come to an end, young Bewick, to amuse me, brought a bag-pipe of a new construction, called the Durham pipe, and played some simple Scotch, English and Irish airs, all sweet and pleasing to my taste. I could scarcely understand how, with his large fingers, he managed to cover each hole separately. The instrument sounded somewhat like a hautboy, and had none of the shrill warlike notes, or booming sound of the military bag-pipe of the Scotch Highlanders. The company dispersed at an early hour, and when I parted with Bewick, that night, I parted from a friend.

A few days after this, I received another note from him, which I read hastily, having with me at the moment many persons, examining my drawings. This note, as I understood it, intimated his desire that I should dine with him that day, I accordingly went; but judge of my surprise when, on arriving at his house at five o'clock, with an appetite becoming the occasion, I discovered that I had been invited to tea, and not to dinner. However, the mistake was speedily cleared up to the satisfaction of all parties, and an abundant supply of eatables was placed on the table. The Rev. William Turner joined us, and the evening passed delightfully. At first our conversation was desultory and multifarious, but when the table was removed, Bewick took his seat by the fire, and we talked of our more immediate concerns. In due time we took leave, and returned to our homes, pleased with each other and with our host. Having been invited the previous evening to breakfast with Bewick, at eight o'clock, I revisited him at that hour on the 16th of April, and found the whole family so kind and attentive that I felt quite at home. The good gentleman, after breakfast, soon betook himself to his labors, and began to show me, as he laughingly said, how easy it was to cut wood; but I soon saw that cutting in his style and manner was no joke, although to him it seemed indeed easy. His delicate and beautiful tools were all made by himself, and I may with truth say that his shop was the only artist's 'shop' that I ever found perfectly clean and tidy. In the course of the day Bewick called upon me again, and put down his name on my list of subscribers in behalf of the Literary and Philosophical Society of Newcastle. In this, however, his enthusiasm had misled him for the learned body, for which he took

upon himself to act, did not think proper to ratify the compact. Another invitation having come to me from Gatehead, I found my good friend seated in his usual place. His countenance seemed to me to beam with pleasure as he shook my hand, 'I could not bear the idea,' said he, 'of your going off, without telling you, in written words, what I think of your 'Birds of America.' Here it is in black and white, and make of it what use you may, if it be of use at all.' I put the unsealed letter in my pocket, and we chatted on subjects connected with natural history. Now and then he would start and exclaim, 'Oh, that I were young again! I would go to America too. Hey! what a country it will be, Mr. Audubon.' I retorted, by exclaiming 'Hey! what a country it is already, Mr. Bewick!' In the midst of our conversation on birds and other animals, he drank my health and the peace of all the world, and I returned the compliment, wishing, no doubt in accordance with his own sentiments, the health of all our enemies. His daughters enjoyed the scene, and remarked, that for years their father had not been in such a flow of spirits. We protracted our conversation beyond our usual time of retirement, and at his earnest request, and much to my satisfaction, I promised to spend the next evening with him, as it was to be my last at Newcastle for some time.

On the 19th of the same month, I paid him my last visit, at his house. When we parted, he repeated three times, 'God preserve you, God bless you!' He must have been sensible of the emotion which I felt, and which he must have read in my looks, although I refrained from speaking on the occasion. A few days before the death of this fervent admirer of nature, he and his daughters paid me a visit in London. He looked as well as when I had seen him in Newcastle. Our interview was short but agreeable, and when I bade him adieu, I was certainly far from thinking that it might be the last. But so it was, for only a very short time had elapsed when I saw his death announced in the newspapers.

Audubon's opinion of Bewick.—My opinion of this remarkable man is, that he was purely a son of nature, to whom alone he owed nearly all that characterized him as an artist and a man. Warm in his affections, of deep feeling, and possessed of a vigorous imagination, with correct and penetrating observation, he needed little extraneous aid to make him what he became, the first engraver on wood that England has produced. Look at his tail-pieces, reader, and say if you ever saw so much life represented before; from the glutton who precedes the great black-backed gull, to the youngsters flying their kite; the disappointed sportsman, who, by shooting a magpie, has lost a woodcock; the horse endeavoring to reach the water; the bull roaring near the stile; or the poor beggar attacked by the rich man's mastiff. As you turn each successive leaf, from beginning to end of his admirable books, scenes calculated to excite your admiration every where present themselves. Assuredly you will agree with me in thinking, that in his peculiar path none has equalled him. There may be men now, or some in after years may appear, whose works may in some respects rival or even excell his, but not the less must Thomas Bewick of Newcastle on Tyne be considered in the art of engraving on wood, what Linnæus will ever be in natural history, though not the founder, yet the enlightened improver and illustrious promoter.

THE DEATH OF CLEOPATRA.

Cleopatra was the daughter of Auletes, king of Egypt. When dying, this prince left the crown to the elder of the two sexes, with an order that they should marry each other, according to the custom of the family. But Dionysius the brother of Cleopatra, desirous of reigning alone, repudiated and banished his sister. Cleopatra was one of the most beautiful as well as the best informed woman of her time. She spoke all languages, and was never in need of an interpreter. When Cæsar went to Egypt she presented herself before him for justice against her brother. Smitten by her charms, he re-established her in her possessions. He had by her a son, named Cæsarion; and he promised to convey her to Rome and there celebrate his nuptials. On his arrival in that city, he placed the statue of Cleopatra in the temple of Venus, beside that of the goddess. Dionysius being drowned in the Nile, Cæsar confirmed the crown upon Cleopatra, and upon a brother of hers about eleven years old, whom the ambitious queen poisoned before he had attained his fifteenth year. After the death of Cæsar, she declared in favor of the Triumvirate. Antony then beheld, and was incapable of resisting the charms of so beautiful a woman; and the time they passed together was marked by festivals and entertainments of unparalleled magnificence. But these pleasures were interrupted by the departure of Antony for Rome. During the absence of her lover, Cleopatra consoled herself, by her studies. She re-established the Alexandrian library, which had been destroyed by fire, a few years before, and enriched it with that of Pergamus, consisting of more than 200,000 volumes. Upon his return to Alexandria, Antony caused Cleopatra to be proclaimed queen of Egypt; but having been defeated by Octavius, at the battle of Actium, the princess deceived her lover, and to rescue her crown attempted to assume the conquest over the conqueror. But in this hope she was deceived, and to avoid the disgrace of being carried to Rome in triumph, she applied an asp to her bosom, and died at the age of thirty-nine, in the year 80 B. C.

Hogs hunted by dogs.—The hog is the food most relished at Madeira. These animals, when young, are marked by their owners, and suffered to range among the mountains, and at last are hunted and caught by dogs.

Ruins of a chapel at St. Jago.—Upon a sandy beach of the island of St. Jago, and at the foot of an elevated plain, are the ruins of a once elegant Romish chapel, supposed to have been built, by the grateful piety of a person saved from shipwreck.

Rocking stone in Chelsea. Double rocking stone in Barre.

IMMENSE BOULDERS.

From Boston to the extremity of Cape Ann, embracing a considerable proportion of Essex county, the number of boulders is very great. Some of them, as remarked by the author of the Geological Report of Massachusetts, are prodigious; and several of them are not less than thirty or forty feet in diameter. Many of them occupy the summits of the highest hills—often presenting a most singular outline to the landscape. When one of these blocks is so poised upon another rock, as to be easily moved, it constitutes a *rocking stone.* Some of these, weighing from ten to one hundred tons, can be perceptibly moved by the strength of a single man, applied to a lever; though the combined efforts of one hundred men cannot move them but a few inches. Above are sketches of two of these stones, which have a peculiar appearance. The one represents a wall of porphyry, ten or twelve feet in diameter, lying on a ledge of the same kind of rock in the north part of the thriving town of Chelsea, near the toll-gate, on the Newburyport turnpike. The other is a view of a divided block of gneiss, which is nearly ten feet high, and is so accurately poised upon a ledge of gneiss, that at a little distance it seems as if it could be easily thrown over; but this is no easy matter. It occurs on the west part of Barre, on the road to Dana.

IMMENSE WEALTH OF A PRIME MINISTER.

When the emperor Ca Hing ascended the throne of China, he commenced his reign with many acts of popularity. He took an uncommonly active share in the different departments of government, and manifested much regard for justice. In this respect he deviated from the established custom of the country, which enjoins on the new emperor and family a mourning, and a total abstinence from the exercise of his public functions for two years; and he only complied with the usage in this relation, so far as to confine himself to Pekin and its environs, and to forbid the exhibition of any plays or public entertainments, excepting for religious purposes. But he did not succeed to his new dignity without some apprehensions from the intrigues of his predecessor's prime minister, whose intentions to usurp the throne he strongly suspected. He had the address, however, to fill all the principal offices and posts, both at the capital and in the provinces, before he manifested his sentiments. He then degraded and imprisoned the object of his jealousy, and seized his wealth, which in bullion, and other property in land, and securities of different descriptions, is said to have amounted, at the lowest computation, to *twenty-seven millions of guineas*, besides upwards of *five hundred* and *thirty pounds of pearls*, among which there were understood to be fifty of the largest in the world. A subject of this rank—possessed of such enormous resources, was certainly no mean rival to the heir apparent, in so venal a government as that of China. Charges of mal-administration were brought against the discarded minister, and he was condemned. A silken cord was accordingly sent to him, as a polite intimation of an alternative whereby he had his choice of suicide or a public execution. He preferred the former, and hanged himself.

TRUTH OF GEOLOGICAL DISCOVERIES.

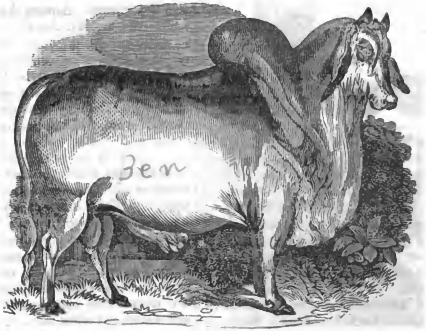
Some may affect to doubt the truth of the discoveries which are said to have been made. But many of them, and indeed all except the various opinions and hypotheses of a few men who assume to be wise above the revelation, are well established. There may be some minds so debased and degraded from the station assigned originally to the human intellect that they would deny any proposition not founded on geometrical demonstration. If the dislocated skeleton of a perfect animal, imbedded in the solid rock is presented, there may be those who would deny that the animal had ever lived; for it might be said that such a creation might be made in such a form as well as in any other; and such assertion would not be disproved, nor could it be proved that such a thing might not exist without a cause; but the absurdity of either of these last propositions is so obvious, when compared with the more plausible and probable one, that the animal lived and died, and its bones were afterward incorporated in the rock at the time of its formation, that no sane and honest mind would hesitate respecting the certainty of the fact.

CAVERNS IN BERKSHIRE, MASS.

These all occur in limestone; and are so similar, that it is hardly necessary to describe them separately. Two exist in the south part of New Marlborough, containing several apartments and some stalactites. In West Stockbridge is a small one. In Lanesborough there is one 100 feet long, narrow and irregular, produced probably by a subterranean stream. In Adams, a mile south of the North village, on the Cheshire road, is a cavern of considerable interest, containing several apartments; the largest of which is thirty feet long, twenty feet wide, and twenty feet high. A similar cave may be seen in Bennington, Vermont. And although these caverns will not compare in extent with those in our western States, yet they will afford not a little gratification to those not familiar with subterranean excursions.

ANIMAL MAGNETISM AMONG THE ABORIGINES OF MASSACHUSETTS.

Hutchinson, in his account of the Indians of Massachusetts, gives the following description, on the authority of the apostle Eliot, of the manner of healing diseases by the Indian powows. 'Being asked,' he says, 'what these powows do, and what use they are of,' they said 'their principal employment was to cure the sick by certain odd gestures, and beating themselves, and then they pull out the sickness, by applying their hands to the sick person, and so blow it away.'



The Nagore Bull.

NAGORE CATTLE.

In 1832 a bull and cow were exhibited at a cattle show in England, under the denomination of Nagore cattle. They were beautiful animals, and attracted much attention. They were bred by Col. Skinner at Danah, on the borders of the Bichaneer desert, fourteen hundred miles from Calcutta, where they arrived in 1829—being then something under six months old. Thence they were forwarded to Europe. They are not buffaloes, but of the highest breed of Indian cattle. They are used in India for the state carriages of people of rank, and are much valued for their size, speed, and endurance; and sell at very high prices. Col. Skinner has a large stock of them at his farm, and six or seven are always kept saddled, to carry military despatches. They remain saddled three or four hours, and if not wanted in that time, fresh ones are brought out to relieve their companions. They will travel with a soldier on their back fifteen or sixteen hours in a day, at the rate of six miles an hour. Their action is particularly fine—nothing like our cattle, with the sideway, circular motion of their legs. The Nagore cattle bring their hind legs under them, in as straight a line as the horse. They are very active, and can clear a five-barred gate with the greatest ease. The bull, Jupiter, represented in the above engraving, frequently jumps over a high iron fence in order to get at water, and when he has drunk his fill, leaps back again. This bull was in fine condition, when exhibited. He is employed in a light cart, in various jobs about the farm of Mr. Perkins of Springfield, near Wadsworth. Sometimes he goes *fore-horse* in the waggon-team, to deliver corn; he also drags the bush-harrow, and draws the light roller over the ploughed land. He is very docile and tractable, when one man drives, and attends him; but he has, now and then, shown symptoms of dislike to others. He is fed entirely on hay. Except when he works, a little bran is given him, and in the turnip season he is treated occasionally with a few slices of Swedes, of which he is quite fond. He was at first troublesome to shoe; and it was necessary to erect a break, in order to confine him. He was unwilling to go into it for some time, but now walks in contentedly. He is very fond of being noticed; and often when he is lying down, if any one to whom he is accustomed sits upon him, and strokes him over the face, he will turn round, put his head on their lap, and keep it there as long as permitted. The chief advantage of such bulls consists in their speed and strength, in both of which they surpass any of our breeds. The cow is kept at grass with the milch cows, and comes up with them, morning and evening, when they are driven to be milked. But the owner has not ventured to have her milked on account of the probable danger of the attempt. The value of these cattle for the pail is therefore unknown.

POISONOUS ASPS OF EGYPT.

There are several sorts of asps in Egypt, whose poisons have various effects, but all finally mortal. That species which Cleopatra is supposed to have employed when she put an end to her life, is of a very singular nature. It ejects a less quantity of venom than any other kind; but the punctures of its teeth are almost imperceptible. After a person has been bitten about an hour, he finds himself heavy and inclined to sleep, without any pain or disorder of mind. By degrees his limbs lose their strength, a kind of pleasing stupidity invades his animal faculties, and at length he dies without a groan or complaint. Another sort, whose backs are of a deep blue, have their holes in the banks of the Nile, whence they spring out furiously upon the unwary passenger. Amputation is the only cure for the bite of this animal, without which the patient dies in terrible agonies.

Size of the pyramids.—The largest of the great pyramids, which has suffered the least by time and weather, is 693 English feet square at the basis; and its perpendicular height is 499 feet. The whole area of the basis contains 480,249 square feet, which is something more than *eleven acres* of ground.

Elbridge Gerry.

'He was among the first to recommend that Col. Washington should be appointed commander-in-chief of the continental army.' AMERICAN HISTORY.

VICE-PRESIDENT GERRY.

Elbridge Gerry, 'one of the earliest, boldest, and most determined advocates for the Declaration of Independence, and one of the most illustrious signers of the great charter of our liberties,' was born at Marblehead, on the 17th of July, 1744.

He took his degree at Harvard college in 1762, and soon after engaged in business at Marblehead with his father, a highly respectable merchant of that place. Mr. Gerry entered early and with ardor into the controversy between the colonies and the mother country. In 1772 he was elected a representative from his native town, to the legislative body of Massachusetts, and from this period continued for a long time in public life. The Adamses, Warrens, Hancocks and other eminent men of the day were his intimate friends. In their private meetings, he and they concerted resistance to the arbitrary measures of England, and when separated they constantly wrote to each other, with the same objects in view. Though one of the youngest members in the general court, Mr. Gerry was appointed on the most important committees, and distinguished himself in the principal debates. He was next a member of that famous convention at Concord, which gave such a blow to the royal authority in the State.

He was a prominent member of the committees of appeal and safety; and on the night preceding the battle of Lexington, he narrowly escaped being captured by the enemy. The committee had been in session on the day before the march of the British troops, in Menotomy—then part of Cambridge, on the road to Lexington. After the session, they dispersed, except Mr. Gerry and Col. Orne, who remained in the village. Among the objects of this march, as observed by Mr. Austin, one was to seize some of the influential members as hostages for the moderation of the rest, or send them to England for trial as traitors. Mr. Gerry and his colleague Col. Orne retired to rest without taking the least precaution, and remained quietly in their beds until the British advance were within view of the dwelling-house. It was a fine clear night; and they marked the glittering of the moon-beams on the polished arms of the soldiers as they moved in silence. The front passed on. When the centre were opposite the house, an officer and file of men were detached by signal, and marched towards it. Their danger was now imminent. While the officer was posting his men, Mr. Gerry and his comrade found means by their better knowledge of the premises to escape, half dressed as they were, into an adjoining cornfield, where they remained for more than an hour, until the troops withdrew. Every apartment of the house was searched 'for the members of the rebel congress;' even the beds in which they had lain were examined. But their property, and among other things a valuable watch of Mr. Gerry's, which was under his pillow, was not disturbed. After the sword was drawn Mr. Gerry was placed at the head of the committee for raising the supplies. He was the first to propose the preparation of a law for encouraging the fitting out of armed vessels, establishing a court for the trial and condemnation of prizes; and was also chairman of the committee appointed for that purpose. This was the first actual avowal of offensive hostility against the mother country, and the first effort to establish an American naval armament. Great credit is justly given to Mr. Gerry for introducing and carrying this measure. John Adams called it 'Gerry's law,' and described it as 'one of the boldest, most dangerous, and most important measures in the history of the new world.' He was the first to decypher the intercepted letter of the traitor Church, and the first to detect fraud in the accounts of the traitor Arnold. In 1775 the lucrative post of maritime judge of Massachusetts was offered to Mr Gerry, but he declined, lest it should obstruct the performance of his general political duties. Early in 1776 he was elected a delegate from Massachusetts to the continental congress. His reputation occasioned his being placed on all the committees of high importance. From his entrance into congress until the organization of the treasury board, in 1780, he was generally chairman of the committee on the treasury. Towards the close of 1779 he was appointed chief of the commission chosen by Massachusetts to meet delegates from other States at Philadelphia for the purpose of divising some corrective for the sad condition of the currency. At the formation of the treasury board, he was made its presiding officer. In February, 1780, a measure of congress, respecting the assessments of supplies, gave so much umbrage to Mr. Gerry, as the representative of Massachusetts, that he left his seat While absent he was selected by congress as a member of one of their usual committees to visit the army. Yielding to the solicitations of friends, and satisfied at length with the measures adopted

on his remonstrance, he resumed his station in the national councils in 1783. When the definitive treaty was laid before them, those members who had signed the Declaration of Independence, of whom three only remained, Messrs. Gerry, Jefferson and Ellery, were appointed first on the committee to which it was referred. In 1784, Mr. Gerry was re-elected to congress; and it is said, that at the age of less than 42 years, he had been longer a member of that assembly than any other man in it. In 1787 he was chosen a delegate to the convention which met at Philadelphia, for the purpose of revising the articles of confederation. Great difference of opinion existed in that body, and several members refused to affix their signatures to the constitution, adopted by the convention. Among these was Mr. Gerry. For a short period his popularity suffered by the course he pursued; but in 1789 he was again returned to congress and remained a member for four years, during which time he lent his aid freely to the support of the constitution, since it had received the sanction of the people. On one occasion, indeed, not long after taking his seat, he gave it as his opinion, on the floor of the house, 'that the federal constitution having become the supreme law of the land, the salvation of the country depended on its being carried into effect.' After resigning his seat in congress he returned to private life, and resided in Cambridge. 'High in the esteem and affection of his immediate constituents, firmly possessed of the confidence of his associates, and from long and constant service enjoying the applause of the people, Mr. Gerry retired from the councils of the confederacy with all the honors which patriotism, integrity and talents could acquire in the service of the State. In the full possession of these splendid acquisitions, it was his good fortune to add another of inestimable value to his domestic felicity. Before leaving New York, he married the daughter of Mr. James Thompson, one of the most respectable, and on the mother's side, most ancient families of that city. The lady had been educated in Europe, whence she had recently returned, and in all the pride of youth, was considered the most beautiful woman in the United States. From the centre of the gay and elegant society of New York, where she was the subject of uncommon admiration, she accompanied her husband to Massachusetts. No man's happiness was ever more identified with another's, than was Mr. Gerry's with this accomplished lady. Whatever were the storms in the political elements, it was in her society that he found perfect serenity.' In 1797 he was appointed to accompany General Pinckney and Mr. Marshall, on a special mission to France, for the purpose of preventing the threatened interruption of the peaceful relations between that country and the United States. For some time the French delayed to recognize them; and in the spring of 1798 ordered Marshall and Pinckney to quit the territory of France, but invited Mr. Gerry to remain and continue the negotiation. He refused to do the latter, but consented to stay in order to prevent a rupture between the two nations. This course brought upon him the censure of his political opponents, at the time; but in the words of president Adams, 'he alone discovered and furnished the evidence that X. Y. and Z were employed by Talleyrand; and he alone brought home the direct, formal and official assurances upon which the subsequent commission proceeded, and peace was made.' In October, 1798, Mr. Gerry returned home, and at the request of the democratic party of Massachusetts, became their candidate for the chair of governor of the State. In 1801 he was also a candidate; but at both periods his opponent was chosen. In 1810 he was elected to the office, after a violent contest. The following year he was re-elected; but in 1812 he was defeated. In the same year he was chosen vice-president of the United States. He did not long discharge the duties of that high office. As he was proceeding to the senate house, at Washington, 'a sudden extravasation of blood took place upon the lungs, and terminated his life within twenty minutes, almost without a struggle, and apparently without pain.' Over his remains a monument of white marble has been erected by congress.

It is impossible, within our circumscribed limits, to do justice to the character of this illustrious statesman: nor can we furnish by means of an outline engraving on wood, so ample and finished a likeness of him, as we could wish. J. T. Austin, Esq. has published the life of Mr. Gerry, to the close of the Revolution. It is written with signal ability; and abounding in interesting reminiscences, eloquent passages, and numerous portions of the correspondence between Mr. Gerry and the patriots and heroes of his time; it constitutes an invaluable addition to the historical archives of the country. From this work, and the comprehensive lexicon of Leiber, we have drawn most of the facts, and some of the language of our memoir.

Orthography.—As to the spelling of *words properly*, or, putting the *right letters* into them no rule can be given. It is a thing to be acquired by practice only. In case of words, which are derived from other words, the spelling of the former will arise from a knowledge of the latter: thus, *hairy* naturally enough comes from *hair;* but, what *reason* can be given why *hair* should not be spelled *hare*, instead of *hair?* The best, the shortest, and, indeed, the only way of learning to spell all the words of a language correctly, is to write them many times over. Nothing fixes words in the mind like putting them upon paper. The eye is a much better remembrancer than the ear, and the hand is still better than the eye. For this reason much writing is recommended.

We are naturally more attentive to that which is addressed *to us*, than we are to that which reaches our ear or our eye as mere unpointed observation. In giving instructions, the *impersonal* mode of speaking is less forcible as well as less clear than the *personal*. '*You* must take care,' is a very different thing from 'care must *be taken*;' or it has, at any rate, a very different effect upon the hearer.

Colossean Sphinx.

SPHINX OF THE PYRAMIDS.

The head of this colossus stands about a quarter of a mile to the east of the second of the great pyramids of Egypt, nearly ten miles to the westward of the supposed site of the ancient city of Memphis, upon a ridge of rocky hill, along the borders of the Lybian Deserts. It is usually called a sphinx, which is the name of a fabulous monster, having the head and bust of a woman, the wings of a bird, the claws of a lion, and the body of a dog. Among the Egyptians this figure was a symbolical representation of the rising of the Nile, in the months of July and August, when the sun passes through the signs *Leo* and *Virgo*. Of this sphinx near the pyramids, as represented in the accompanying engraving, there is little to be discerned but from the shoulders upwards, being a monstrous bust of a woman, all cut out of the solid rock, and never separated from it; except the upper part of the head which seems to be adventitious. It is almost thirty feet high, fifteen feet from the ear to the chin, and above thirty feet wide at the lower part of the neck, or beginning of the breast. The sand is so accumulated about it, that one can but just discover the top of the back, in which there is an aperture about five feet long, seventy-five from the hinder part of the neck, and thirty from the bottom. It is not easy to get to the top of the head, but those travellers who have ascended it, say that there is a round hole, by which a full grown person may descend into it; and from within it is supposed the priests delivered their oracles. Pliny makes mention of this sphinx, and tells us it was thought to be the sepulchre of king *Amasis*. The rock is dug away all around the sphinx, to a considerable distance, and the stone was undoubtedly employed in building the pyramids, with which some moderns suppose it has a subterraneous communication.

CUMBERLAND MINE IN RHODE ISLAND.

The immense coal mine in Cumberland—about six miles from the city of Providence, is attracting more and more the attention of the public. At first the idea of coal being found in that town, was considered by many persons as altogether visionary, and the miners who were at work on the premises were generally ridiculed by these people. But they had an experienced geologist at their head. He knew that obstacles and discouragements were often thrown in the way of those who project new things, or undertake extraordinary enterprises, and conscious that he and his associates were in the possession of a coal region of countless value, he determined with them, to make a thorough trial and not to relax their efforts till they had completed the most conclusively satisfactory experiments. Accordingly, day after day, they continued to delve in the earth, and pushing on the work, and encouraging each other against the jeers and scoffs of the idle spectators who frequented the spot, as well as against several adverse and almost disheartening circumstances, they opened a shaft of about fourteen feet in diameter, extended it to the distance of eighty feet, and carried fifty feet of it into the very midst of an inexhaustible bed of coal. Thus by unyielding toil and perseverance have they accomplished this great object. They have done it too, by their own means and with their own hands—and without 'the helps and appliances' of overgrown capitalists; and, we are pleased to learn, now find themselves independent in fortune, the proprietors

of one of the richest mining districts in all New England.

The anthracite which they take out is of a superior description, and exists to an incalculable extent; while the land under which the proprietors have purchased the privilege to carry on their mining operations occupies the space of about a mile square. The coal brings six dollars per ton at the pit; and we are informed, that the very persons who in the outset amused themselves by laughing at the miners about their 'coal mine,' are now among the first to purchase the coal of them, and are not only eager to obtain it at the price above named—which is four or five dollars less per ton than is asked for other anthracite—but go for it themselves, or gladly pay the cost of transportation into the bargain. Hitherto horses have been employed to draw up the coal. But these useful animals are about to be superseded by their rival, the steam engine, by the use of which and the sinking of an additional shaft it is estimated that a supply of from 30,000 to 50,000 tons will be taken out during the coming year. The cost in working amounts to about *one dollar* per ton, and the owners consequently clear the round sum of *five hundred dollars* on every hundred tons which they raise from the mine! This coal region is two miles and a half from the flourishing town of Pawtucket, and about four miles from the Boston and Providence rail-road.

MADAME DE LA FAYETTE.

Madame de la Fayette was the daughter of D'Agmer, lord of La Virgue, and governor of Havre. To the most attractive features, she combined a tender heart, an enlarged and cultivated mind, a wonderful facility in acquiring knowledge, and a penetration which readily led her to comprehend the lessons of her masters. These were *les peres* Rapin and Menage, by whom she was instructed in the Latin tongue.

On her arrival in Paris, her acquaintance was sought by Madame de Rambouillet, Voiture, Montausier, Callières and the Duke de la Rouchefoucault. The latter, during the last twenty-five years of his life, conceived the most unalterable friendship for Madame de la Fayette, and it was of this nobleman, that she said—'He, it is true, formed my understanding; but I reformed his heart.'

Madame de la Fayette was often honored with the society of Huet, La Fontaine, Segrais, and many other literary and learned characters, who acknowledged that she had more solidity than Madame de Rambouillet, and more taste than Madlle. de Scuderi. Madame de la Fayette preferred poetry to prose, but she was delighted with Montaigne, and often repeated, that it gave her great pleasure in having him for a neighbor. She used to compare bad translators to lacqueys, who converted into follies the compliments they were intrusted with; and it was one of her maxims, that 'he who puts himself above others, however extensive his talents, places himself beneath his understanding.'

The novel of Zaide, was her first work, which she published under the name of Segrais. It had a prodigious success; and Fontenelle confessed, that he read it *four* times in succession. According to the opinions of Voltaire, she was the first writer of romances, in which the manners of virtuous persons are represented, and adventures founded in nature are gracefully displayed.

Madame de la Fayette was born in 1633. She was married in 1655, and died in 1693. In her latter days she was solely occupied in her religious duties. Among her papers several manuscripts were found, many of which have been lost. The rest were published at the end of the works before mentioned. Of their merit the several editions that have been called for, bear sufficient proof.

VAN OSTADE THE PAINTER.

Adrian Van Ostade was born at Lubeck, in the year 1610. He was a disciple of Francis Hals, but fixed upon a style and manner peculiar to himself. The subjects which he chose to paint were always of a low kind—village dances—interiors of farm houses—tippling houses, &c. It was in these places that Ostade grouped his characters, which are generally fat peasants, drunken smokers, and women occupied in rustic pursuits. Ostade depictured life as it appeared in the lower classes of mankind, without endeavoring to improve it, and he displays in his smaller compositions, as much spirit as truth, and exhibits such delicacy of pencil, transparency, warmth and variety in his coloring, and so conversant does he seem with the actions, habits and characters of his figures, that even while many of his objects are rather disgusting, the spectator cannot but admire his genius and execution.

Though born in Germany, Ostade belongs to the Flemish school—having formed his talents in Flanders. While in the school of Francis Hals, he became acquainted with Bromoer, with whom he contracted a most intimate friendship. Ostade established himself, at first, in Haerlem, where he remained until the armies of Louis the fourteenth threatened the invasion of the low countries. Terrified by the approaches of war, the artist abandoned a place in which his fortune and reputation took its rise. He took his family with him, and was desirous of returning to Lubeck; but, on his passage to Amsterdam, he met with an opulent individual, who had such ascendency over him as to allay his fears and induce him to take up his residence in that capital. It was there he extended his fame, amassed considerable wealth, and terminated his career at the advanced age of seventy-five.

He married a lady who brought him a numerous offspring and made him happy in his family. In the museum, at Paris, there is an excellent picture, painted by himself, in which he is represented holding the hand of his consort, surrounded by his eight children. The air of satisfaction, depictured on his countenance, proves that it was in his domestic enjoyments that he placed his felicity.

The works of Van Ostade are exceedingly scarce—especially those of his best time and manner; and such as are genuine, when offered for sale, fetch uncommon prices.

Restoration of Pompeii.

DESTRUCTION OF POMPEII, AND ITS RE-DISCOVERY.

Originally Pompeii was close to the sea, though owing to the gradual elevation of the earth, it is now at some distance inland. Shells and sea-sand have been found by digging on the side adjoining the coast, and even rings, intended, as is supposed, for the moorings of vessels. From the position of the town, and the discoveries of the excavators, it is clear that only three principal roads led to it. The first, on the western side, conducted along the coast to Naples; the second joined the Popilian way at Nola; and the third crossed the Sarnus. The city stood at the bottom of the bay, about thirteen miles south-east of Naples, and five from Vesuvius, upon an insulated spot formed by lava, which seems to have anciently burst from the ground in that place, as in others round the foot of the mountain. Thus situated, it appeared to possess all local advantages that the most refined taste could desire. Upon the verge of the ocean, at the entrance of a fertile plain, on the bank of a navigable river, it united the conveniences of a commercial town with the security of a military station, and the romantic beauty of a spot celebrated in all ages for its pre-eminent loveliness. Its environs, even to the heights of Vesuvius, were covered with villas, and the coast all the way to Naples was so ornamented with gardens and villages, that the shores of the whole gulf appeared as one city; while the prodigious concourse of strangers who came here in search of health and recreation, added new charms and life to the scene. But these advantages were dearly purchased. An enemy, then unknown, was silently working its destruction: an enemy which from time to time still desolates the modern towns which stand upon the buried and long forgotten cities of antiquity. Seneca makes mention of an earthquake which took place on the sixteenth of February, A. D. 63, and threw down a great part of Pompeii, and considerably injured Herculaneum. 'A herd' he says, 'of six hundred sheep were swallowed up, statues were split, and many persons lost their reason.' The following year another earthquake took place whilst Nero was singing at Naples; the building fell immediately after the emperor had left it. Vestiges of the injury done by these shocks, may even now be seen in the houses which have been excavated at Pompeii, where the mosaic floors are often much out of their level, twisted and broken; and show the repairs that have been made by the inhabitants themselves. These alarms, the usual presages of a near eruption, were from time to time repeated until the twenty-third of August, A. D. 79, the day on which, after a cessation for ages, the first recorded volcanic paroxysm of Vesuvius occurred and overwhelmed Pompeii.

Pliny the younger was an eye-witness of this appalling catastrophe; and in his letters to Tacitus, he has transmitted to posterity a narrative of it, with an account of the death of his uncle, the elder Pliny, who fell a victim to his humanity. Those letters would occupy too much space in this magazine. Leaving out, therefore, the less relavent matter, we have drawn from them all the facts and most interesting particulars. At that time, nearly eighteen hundred years ago, the elder Pliny was with the fleet under his command, at Misenum. On the twenty-fourth of August, his sister desired him to observe a cloud of unusual size and shape. He immediately went out on an eminence, from whence he might more distinctly view it. He could not then discern from what mountain this cloud issued, but found afterwards it ascended from Vesuvius. The figure resembled that of a pine tree, for it shot up a great height in the form of a trunk, which extended itself at the top into branches; occasioned either by a sudden gust of air that impelled it, the force of which decreased, as it advanced upwards, or the cloud itself being forced back again upon its own weight, expanded in this manner: it appeared sometimes bright and sometimes dark and spotted, as if it were more or less impregnated with earth and cinders. This phenomenon excited his philosophical curiosity to take a nearer view; and he ordered a light vessel to be got ready. As he was departing, he received from Rectina, the wife of Bassus, a note, in which she, alarmed at the danger that threatened her and her villa, at the foot of Vesuvius, and from which

there was no way to escape but by sea, entreated him to come to her assistance. He accordingly changed his first design, and went with the gallies, intending not only to assist Rectina, but others whose villas stood extremely thick on that coast. Hastening to the place whence others fled with terror, he steered directly, and with perfect presence of mind to the point of danger. He was now so near the mountain, that the cinders, which grew thicker and hotter the nearer he approached, fell into the ships, with pumice stones, and black pieces of burning rock. They were likewise in danger, not only of being aground by the sudden retreat of the sea, but also from the vast fragments which rolled down from the mountain, and obstructed all the shore. Here he stopped to consider whether he should return. 'Carry,' said he to the pilot, 'carry me to Pomponianus. Fortune befriends the brave.' The wind favoring him, he was taken to Stabiæ, where finding Pomponianus in extreme consternation, he encouraged and exhorted him to keep up his spirits. In the meanwhile the eruption of Vesuvius flamed out in several places with much violence, which the darkness of the night contributed to render still more visible and dreadful. To soothe the apprehensions of his friend, he assured him it was only the burning of the villages, which the country people had abandoned to the flames; and after this retired to sleep. The court which led to his apartment being soon almost filled with stones and ashes, it was thought proper to awaken him. He got up and consulted with Pomponianus and his company, whether it would be most prudent to trust to the houses, which shook with frequent and violent concussions, or fly to the open fields, where the calcined stones and cinders, though light, yet fell in showers, and threatened destruction. In this distress they resolved for the fields, as the less dangerous of the two. They went out then, having pillows tied upon their heads with napkins, to defend against the storm. It was now day everywhere else, but there a deeper darkness prevailed than in the most obscure night; which was, however, dissipated in some degree by torches and other lights. They went down upon the shore to observe if they might safely put to sea; but the waves still ran high and boisterous. There the elder Pliny threw himself down upon a cloth spread for him, when immediately the flames, and a strong smell of sulphur, the forerunner of them, dispersed the rest of the company, and obliged him to rise. He raised himself up with the assistance of two servants, and instantly fell down dead; suffocated by some gross and noxious vapor. As soon as it was light again, which was not till the third day after this melancholy accident, his body was found entire, and without any marks of violence upon it, exactly in the same posture that he fell, and looking more like a man asleep than dead. In the meanwhile, Pliny the younger and his mother were at Misenum. The quaking of the earth being so violent as to shake every thing about them, and almost to threaten total destruction, they went into the court which separated the sea from the house. The morning came, but the light was faint and languid; the buildings all around tottered, and though they stood upon ground, yet as the place was narrow and confined, there was no remaining there without certain danger. They therefore resolved to quit the town. The people followed them in the utmost consternation, and pressed in crowds about them in their way out. Having reached a convenient distance from the dwellings, they stood still in the midst of a most dangerous and dreadful scene. The chariots were so agitated backwards and forwards, though upon level ground, as not to be kept steady, even by being supported by large stones. The sea seemed to roll back upon itself, and to be driven from its banks by the convulsive motion of the earth; and sea animals were left upon the enlarged shores. On the other side a black and dreadful cloud, bursting with an igneous serpentine vapor, darted out a long train of fire, resembling flashes of lightning, but much larger. Soon afterwards the cloud appeared to descend and cover the whole ocean; and hid entirely both Capriæ and Misenum. His mother now conjured the younger Pliny to make his escape, 'which, as he was young, he might easily do; as for herself,' she said, 'her age rendered attempts of that sort impossible.' Absolutely refusing to leave her, he took her by the hand and led her on. The ashes then began to fall on them, and thick smoke came rolling after them like a torrent. They turned out of the high road lest they should be pressed to death by the crowd. But scarcely had they stepped out of the path, when darkness overspread them, not like that of a cloudy night, or when there is no moon, but of a room when it is shut up, and all the lights extinct. Nothing then was to be heard but the shrieks of women, screams of children, and cries of men; some calling for children, others for parents, others for husbands, and only distinguishing each other by their voices; one lamenting his own fate, another that of his family; some wishing to die from the very fear of dying; some lifting their hands to the gods; but the greater part imagining that the last and eternal night was come, which was to destroy the gods and the world together. At length a glimmering light appeared, which they imagined to be rather the forerunner of an approaching burst of flames, as in truth it was, than the return of day. However, the fire fell at a distance; then again both were immersed in thick darkness, and a heavy shower of ashes rained upon them, which they were obliged every now and then to shake off, otherwise they would have been buried in the heap. At last this dreadful darkness was dissipated by degrees; the real day returned, and even the sun appeared, though faintly, and as when an eclipse is coming on. Every object that presented itself to their eyes seemed changed, being covered with white ashes as with a deep snow; and both Pliny the younger and his mother returned to Misenum, determined to remain there, notwithstanding the earthquake—which still continued—until they should receive some account from his uncle, whose melancholy fate we have already described.

The elevated position of Pompeii sheltered it from being destroyed by an inundation of lava; it was buried under showers of stones, cinders and ashes. Much of this matter appears to have been deposited in a liquid state; which is easily explained,

for the vast volumes of steam sent up by the volcano descended in torrents of rain, which united with the ashes suspended in the air, or washed them, after they had fallen, into places where they could not have well penetrated in a dry state. Among other proofs of this, the skeleton of a woman was found in a cellar, enclosed within a mould of volcanic paste, which received and has retained a perfect impression of her form. Nor was Pompeii buried to its present depth by a single eruption. Successive layers are clearly to be traced. Simond counted eight of them; and the lowest has evidently been moved, while the others are untouched; a plain proof that some interval elapsed between their deposition, and that the inhabitants returned to seek after their most costly property. That so few articles of intrinsic value have been found is attributed, with much probability, to this cause. For 1676 years Pompeii remained buried under ashes. The first indications of ruins were observed in 1689, but the excavations did not commence till 1755. The excavations to which the attention of Europe is constantly directed, have produced, and continue to produce, the most interesting results. Unfortunately some of the most important monuments are rapidly perishing; and being already half destroyed by the burning cinders, shaken by earthquakes, and built originally of the worst materials, oppose but a feeble resistance to the destructive agency of damp and frost.

THE DESERTER,

OR AN IRISHMAN'S WAY OF TELLING A STORY.

Leaving home is always attended with distressing feelings, but quitting one's country for the first time is particularly painful. Each object that catches your eye at parting, recalls some painful recollection. The hills, plains, and all around, seem then more interesting than ever. You gaze on them with an intensity of feeling, and the swollen heart impedes the respiration as the reckless vessel dashes through the foaming waves, and hurries you from the cherished spot; each moment new objects are presented to the fatigued and anxious eye, and at the conclusion of this panoramic view, the distance throws a veil over the faded scene, until at length the wearied vision is liberated from its painful task, as nought remains but 'all heaven above, all sea around us.' It was in such a moment as this that, as Wilmot paced the quarter deck, he beheld his native mountains receding from his view. Kingstown had already disappeared, and the Rochestown hills were scarcely visible. He felt that each wave impelled him farther from those beloved scenes, and he could not refrain from indulging in melancholy reflections on the prospect of quitting Ireland perhaps for ever. He turned from the vast and monotonous expanse of sea and sky, and endeavored to calm his agitated feelings, by examining the little world on which he stood. Around the mast he perceived a crowd collected, and curiosity induced him to investigate the cause. A sergeant had just liberated two unfortunate deserters from their fetters, as there then existed no possibility of escape. They had the appearance of Irish peasants, and, commiserating their fate, Wilmot descended on the main deck to converse with them.

'Well, my poor fellow,' said he to one of them, 'how did you get into this plight?'

'Och, sir, that's a long story, any how, and sorra bit o' me knows what il be the ind of it—och musha, may ye niver know the sorrow of misforchin, bekays its the mischief all out, an' makes many a man do an undecent turn, so it does. By reason of it, I was cotched by an ould sargint with a durty shillin', for all the world like they cotch the trout with a shinin' fly—och, more sorrow to him every day he sees a pavin' stone, and the likes of them that takes in poor innocent crathers like huz; so ye see we wor perpethally marched about, all over the country, like a flock of geese, and myself begins to get mighty sick of it entirely. Well, and musha—shure Sir I'm quite unasy to be afthur keepin' your honor all this time in the cowld, talkin' with the likes of me, so I am—but as I was sayin' afore, our regiment was marched about tell we come all the way to Liverpool. Sorra bit o' me knows where it is, only its across the sae, bekays I doesn't know the geography o' the place at all at all, more blame to me, for Father Kearney, kind sowl, offered to tache me larnin', and make a man of me, so he did, when I was nothin' but a bit of a gorsoon; but the sorra taste did I mind him, be rason of me bein' fond of deversion, an' so I let him keep his larnin' to himself, and sure enough its himself that was larned, and cud spake Latin as fast as'——

'I suppose somewhat faster than you speak English,' interrupted Wilmot dryly.

'Och bother—there was a taste o' difference, any how, but howsomediver, Sur, he was a great man entirely. Well, one mornin' I gets a letther from my sisther, down in Wicklow, (the Lord bless her, and mark her to grace,) and she tould me to come up to her weddin' that was to happen with Darby Malowney—and be the same token, Darby's mother was my mother's'——

'Oh, let alone your relations, or we shall never hear the end of it.'

'Just as you plase, Sur. Well, I axed lave of the sargint, sorra take him, and bekays there was no great liken between huz, he wouldn't let me; an' shure its myself wouldn't stay from Peggy's weddin' for the king himself, and so I tuk Frinch lave, an' threw aff me regimentals, and popp'd into a country man's coat, so then I looked for all the world like myself come to myself again, so crassin' the salt saes wanst more, I landed agin in the great city of Dublin, and great's the pity the rich sort won't live in so purty a place; but if Dan O'Connell, long life to him, has any thrue pluck in him, he'll be afthur taching thim not to be spendin' their good mony in furren parts, with the Frinch and the likes o' them, bekays its a mortyal shame, and the ruination of Ireland, so it is. Well thin, findin' myself like a lark out of a cage, I just stepped into a frind's house on the quay, to take the shiver o' the sae aff me, and to drink a health to myself, that I left behind in Englint; and shure I couldn't think there was harm in that, but I soon found the deffer, yer honor, bekays it made me forget that the king and I wasn't frinds ye see, an' so as I was goin' down the quays to set aff for Wicklow, who the mischief should come across me but an officer, and so by

rason o' the dhrop I tuk, I didn't think I wasn't a soger, an' well become me, I ups wid my hand quite rigglar to slute him—bad win to ye, says I to myself, the minnit I done it, and he seen I was bothered or somethin, and so he axed me was I a soger. Myself was niver given to tellin' a lie, but the ould boy got betune me for wanst—an' says I, quite smart—'niver your honor.'

'You lie,' says he, when he seen me git as red as his coat, and he offered to collar me.

'Be asy,' says I, or 'more luck to me but I'll settle ye'—wi'd that my dear, he dhrew his swoord, and tuk me prisner, and there your honor's the long and the short of it.'

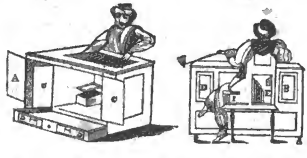
Wilmot commiserated his fate, and promised to exert his influence in Liverpool, on his behalf.

THE GREAT CHESS-PLAYING ANDROIDES.

Many articles, and even volumes have been published in relation to Mr. Maelzel's automaton chess-player. They contain conjectures almost innumerable, as to the construction of the mechanism, and particularly as to the mode by which that famous androides is brought into action, moves the chess men upon the board, and leading his antagonist along by stratagem after stratagem, finally discomfits and overwhelms him with defeat. Some of these conjectures or supposed *modus operandi* are plausible, if not interesting in the extreme. None, however, that have yet reached the public, are, on the whole, more ingenious, and, at the same time, more fallacious, than those contained in the eleventh of Dr. Brewster's Letters on Natural Magic; and which we insert below. Elaborately prepared, this letter purports to give a full and clear description of the automaton, and of the prime mover of the machinery; and to a superficial reader, has the appearance not only of an exact and faithful description of the figure, but also of a detailed and authentic account of the very way, as the compiler denominates it, in or by which, he thinks, the performances of the androides are conducted. And although, as will be perceived in our concluding remarks, this writer has fallen into a capital and, for him, a most singular error, yet he is nevertheless entitled to much credit for the labor and ability he has displayed, in the paper in question.

'Ingenious as all these machines are, (meaning those *automata* previously mentioned by him, and of some of which an account will be found in a former number of this magazine,) they sink into insignificance when compared with the automaton chess-player, which for a long time astonished and delighted the whole of Europe. In the year 1769, M. Kempelen, a gentleman of Presburg in Hungary, constructed an automaton chess-player, the general appearance of which is shown in the annexed figures. The chess-player is a figure as large as life, clothed in a Turkish dress, sitting behind a large square chest or box three feet and a half long, two feet deep, and two and a half high. The machine runs on castors, and is either seen on the floor when the doors of the apartment are thrown open, or is wheeled into the room previous to the commencement of the exhibition. The Turkish chess-player sits on a chair fixed to the square chest; his right arm rests on the table, and in the left he holds a pipe, which is removed during the game, as it is with this hand that he makes the moves. A chess-board eighteen inches square, and bearing the usual number of pieces, is placed before the figure. The exhibiter

Fig. 1. *Fig.* 2.



then announces to the spectators his intention of showing them the mechanism of the automaton. For this purpose he unlocks the door A, Fig. 1, and exposes to view a small cupboard lined with black or dark colored cloth, and containing cylinders, levers, wheels, pinions, and different pieces of machinery, which *have the appearance* of occupying the whole space. He next opens the door B, Fig. 2, at the back of the same cupboard, and holding a lighted candle at the opening, he still further displays the enclosed machinery to the spectators, placed in front of A, Fig. 1. When the candle is withdrawn, the door B is then locked; and the exhibiter proceeds to open the drawer GG, Fig.1, in front of the chest. Out of this drawer he takes a small box of counters, a set of chess-men, and a cushion for the support of the automaton's arm; as if this was the sole object of the drawer. The two front doors C,C, of the large cupboard, Fig. 1, are then opened, and at the back door D of the same cupboard, Fig. 2, the exhibiter applies a lighted candle, as before, for the purpose of showing its interior, which is lined with dark cloth like the other, and contains only a few pieces of machinery. The chest is now wheeled round, as in Fig. 2: the garments of the figure are lifted up, and the door E in the trunk, and another door F in the thigh, are opened,—the doors B and D having been previously closed. When this exhibition of the interior of the machine is over, the chest is wheeled back into its original position on the floor. The doors A,C,C, in front, and the drawer GG, are closed and locked, and the exhibiter, after occupying himself for some time at the back of the chest, as if he were adjusting the mechanism, removes the pipe from the hand of the figure, and winds up the machinery.

'The automaton is now ready to play, and when an opponent has been found among the company, the figure takes the first move. At every move made by the automaton, the wheels of the machine are heard in action; the figure moves its head, and seems to look over every part of the chess-board. When it gives check to its opponent, it shakes its head *thrice*, and only *twice* when it checks the queen. It likewise shakes its head when a false move is made, replaces the adversary's piece on the square from which it was taken, and takes the next move itself. In general, though not always, the automaton wins the game.

During the progress of the game the exhibiter often stands near the machine, and winds it up like a clock after it has made ten or twelve moves. At other times he went to a corner of the room, as if it were to consult a small square box, which stood open for this purpose.

'The chess-playing machine, as thus described, was exhibited after its completion in Presburg, Vienna, and Paris, to thousands, and in 1783 and 1784 it was exhibited in London and different parts of England, without the secret of its movements having been discovered. Its ingenious inventor, who was a gentleman and a man of education, never pretended that the automaton itself really played the game. On the contrary, he distinctly stated "that the machine was a *bagatelle*, which was not without merit in point of mechanism, but that the effects of it appeared so marvellous only from the boldness of the conception, and the fortunate choice of the methods adopted for promoting the illusion."

'Upon considering the operations of this automaton, it must have been obvious that the game of chess was performed either by a person enclosed in the chest or by the exhibiter himself. The first of these hypotheses was ingeniously excluded by the display of the interior of the machine; for as every part contained more or less machinery, the spectator invariably concluded that the smallest dwarf could not be accommodated within, and this idea was strengthened by the circumstance that no person of this description could be discovered in the suite of the exhibiter. Hence the conclusion was drawn that the exhibiter actuated the machine either by mechanical means conveyed through its feet, or by a magnet concealed in the body of the exhibiter. That mechanical communication was not formed between the exhibiter and the figure was obvious from the fact that no such communication was visible, and that it was not necessary to place the machine on any particular part of the floor. Hence the opinion became very prevalent that the agent was a magnet; but even this supposition was excluded, for the exhibiter allowed a strong and well armed loadstone to be placed upon the machine during the progress of the game: had the moving power been a magnet, the whole action of the machine would have been deranged by the approximation of a loadstone concealed in the pockets of any of the spectators.

'As Baron Kempelen himself had admitted that there was an illusion connected with the performance of the automaton, various persons resumed the original conjecture that it was actuated by a person concealed in its interior, who either played the game of chess himself, or performed the moves which the exhibiter indicated by signals. A Mr. J. F. Freyhere of Dresden published a book on the subject in 1789, in which he endeavored to explain, by colored plates, how the effect was produced; and he concluded "that a well-taught boy, very thin and tall of his age (sufficiently so that he could be concealed in a drawer almost immediately under the chess-board,) agitated the whole."

'In another pamphlet, which had been previously published at Paris in 1785, the author not only supposed that the machine was put in motion by a dwarf, a famous chess-player, but he goes so far as to explain the manner in which he could be accommodated within the machine. The invisibility of the dwarf when the doors were opened was explained by his legs and thighs being concealed in two hollow cylinders, while the rest of his body was out of the box, and hid by the petticoats of the automaton. When the doors were shut the clacks produced by the swivel of a ratchet-wheel permitted the dwarf to change his place and return to the box unheard; and while the machine is wheeled about the room, the dwarf had an opportunity of shutting the trap through which he passed into the machine. The interior of the figure was next shown, and the spectators were satisfied that the box contained no living agent.

Although these views were very plausible, yet they were never generally adopted; and when the automaton was exhibited in Great Britain in 1819 and 1820, by M. Maelzel, it excited as intense an interest as when it was first produced in Germany. There can be little doubt, however, that the secret has been discovered; and an anonymous writer has shown in a pamphlet entitled "*an attempt to analyze the automaton chess-player* of M. Kempelen," that it is capable of accommodating an ordinarily sized man; and he has explained in the clearest manner how the enclosed player takes all the different positions, and performs all the motions which are necessary to produce the effects actually observed. The following is the substance of his observations:

'The drawer GG when closed does not extend to the back of the chest, but leaves a space O behind it (see Fig. 9, 10, and 11) fourteen inches broad, eight inches high, and three feet eleven inches long. This space is never exposed to the view of spectators. The small cupboard seen at A is divided into two parts by a door or screen, I, Fig. 8, which is moveable upon a hinge, and is so constructed that it closes at the same instant that B is closed. The whole of the front compartment as far as I is occupied with the machinery H. The other compartment behind I is empty, and communicates with the space O behind the drawer, the floor of this division being removed. The back of the great cupboard C,C, is double, and the part P Q, to which the quadrants are attached, moves on a joint Q, at the upper part, and forms when raised an opening S, between the two cupboards, by carrying with it part of the partition R, which consists of cloth tightly stretched. The false back is shown closed in Fig. 9, while Fig. 10 shows the same back raised, so as to form the opening S between the chambers.

When the spectator is allowed to look into the trunk of the figure by lifting up the dress, as in Fig 10, it will be observed that a great part of the space is occupied by an inner trunk N, Fig. 10, 11, which passes off to the back in the form of an arch, and conceals from the spectators a portion of the interior. This inner trunk N opens and communicates with the chest by an aperture T, Fig. 12, about twelve inches broad and fifteen high. When the false back is raised, the two cupboards, the

trunk N, and the space O behind the drawer are all connected together.

'The construction of the interior being thus understood, the chess-player may be introduced into the chest through the sliding panel U, Fig. 9. He will then raise the false back of the large cupboard, and assume the position represented by the shaded figure in Fig. 3 and 4. Things being in this state, the exhibiter is ready to begin his process of deception. He first opens the door A of the small cupboard,

Fig. 3.

Fig. 4.

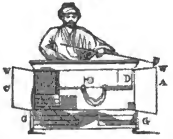
and from the crowded and very ingenious disposition of the machinery within it, the eye is unable to penetrate far beyond the opening, and the spectator concludes without any hesitation that the whole of the cupboard is filled, as it appears to be, with similar machinery. This false conclusion is greatly corroborated by observing the glimmering light which plays among the wheel-work when the door B is opened, and a candle held at the opening. This mode of exhibiting the interior of the cupboard satisfies the spectator also that no opaque body capable of holding or concealing any of the parts of a hidden agent is interposed between the light and the observer. The door B is now locked and the screen I closed; and as this is done at the time that the light is withdrawn, it will wholly escape observation.

'The door B is so constructed as to close by its own weight, but as the head of the chess-player will soon be placed very near it, the secret would be disclosed if, in turning round, the chest door should by any accident fly open. The accident is prevented by turning the key, and lest this little circumstance should excite notice, it would probably be regarded as accidental, as the keys were immediately wanted for the other locks.

'As soon as the door B is locked, and the screen I closed, the secret is no longer exposed to hazard, and the exhibiter proceeds to lead the minds of the spectators still further from the real state of things. The door A is left open to confirm the opinion that no person is concealed within, and that nothing can take place in the interior without being observed.

'The drawer GG is now opened, apparently for the purpose of looking at the chess-men, cushion, and counters which it contains; but the real object of it is to give time to the player to change his position, as shown in Fig. 5, and to replace the false back and partition preparatory to the opening of the great cupboard. The chess-player, as the figure shows, occupies with his body the back compartment of the small cupboard, while his legs and thighs are contained in the space O behind the drawer GG, his body being concealed by the screen I, and his limbs by the drawer GG.

Fig. 5.



'The great cupboard C, C, is now opened, and there is so little machinery in it that the eye instantly discovers that no person is concealed there. To make this more certain, however, a door is opened at the back and a lighted candle held to it, to allow the spectators to explore every corner and recess.

'The front doors of the great and small cupboard being left open, the chest is wheeled round to show the trunk of the figure, and the bunch of keys is allowed to remain in the door D, as the apparent carelessness of such a proceeding will help to remove any suspicion which may have been excited by the locking of the door B.

'When the drapery of the figure has been raised, and the doors E and F in the trunk and thigh opened, the chest is wheeled round again into its original position, and the doors E and F closed. In the mean time the player withdraws his legs from behind the drawer, as he cannot so easily do this when the drawer GG is pushed in.

'In all these operations, the spectator flatters himself that he has seen in succession every part of the chest, while in reality some parts have been wholly concealed from his view, and others but imperfectly shown, while at the present time nearly half of the chest is excluded from view.

'When the drawer GG is pushed in, and the doors A and C closed, the exhibiter adjusts the machinery at the back, in order to give time to the player to take the position shown in a front view in Fig. 6, and in profile in Fig. 7. In this position

Fig. 6.

Fig. 7.

he will experience no difficulty in executing every movement made by the automaton. As his head is above the chess-board, he will see through the waistcoat of the figure, as easily as through a veil, the whole of the pieces on the board, and he can easily take up and put down a chess-man without any other mechanism than that of a string communicating with the finger of the figure. His right hand, being within the chest, may be employed to keep in motion the wheel-work for producing the noise which is heard during the moves, and to per

form the other movements of the figure, such as that of moving the head, tapping on the chest, &c.

'A very ingenious contrivance is adopted to facilitate the introduction of the player's left arm into the arm of the figure. To permit this, the arm of the figure requires to be drawn backward; and for the purpose of concealing, and at the same time explaining this strained attitude, a pipe is ingeniously placed in the automaton's hand. For this reason the pipe is not removed till all the other arrangements are completed. When every thing has been thus prepared, the pipe is taken from the figure, and the exhibiter winds up, as it were, the

Fig. 8.

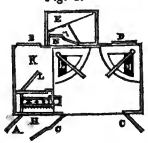
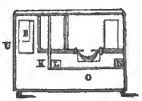


Fig. 9.



enclosed machinery, for the double purpose of impressing upon the company the belief that the effect is produced by machinery, and of giving a signal to the player to put in motion the head of the automaton.

'This ingenious explanation of the chess automaton is, our author states, greatly confirmed by the *regular and undeviating* mode of disclosing the interior of the chest; and he also shows that the facts which have been observed respecting the winding up of the machine "afford positive proof that the axis turned by the key is quite free and unconnected either with a spring or weight, or any system of machinery."

'In order to make the preceding description more intelligible, I shall add the following more detailed explanation of the figures.

Fig. 10.

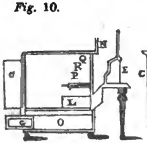
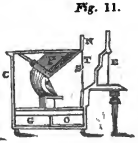


Fig. 11.



'Fig. 1 is a perspective view of the automaton seen in front with all the doors thrown open.

'Fig. 2 is an elevation of the automaton, as seen from behind.

'Fig. 3 is an elevation of the front of the chest, the shaded figure representing the enclosed player in his first position, or when the door A is opened.

'Fig. 4 is a side elevation, the shaded figure representing the player in the same position.

'Fig. 5 is a front elevation, the shaded figure showing the player in his second position, or that which he takes after the door B and screen I are closed and the great cupboard opened.

'Fig. 6 is a front elevation, the shaded figure showing the player in his third position, or that in which he plays the game.

'Fig. 7 is a side elevation, showing the figure in the same position.

'Fig. 8 is a horizontal section of the chest through the line WW in Fig. 6.

'Fig. 9 is a vertical section of the chest through the line XX in Fig. 8.

'Fig. 10 is a vertical section through the line YY. Fig. 6 showing the false back closed.

'Fig. 11 is a similar vertical section showing the false back raised.

'The following letters of reference are employed in all the figures:

'A. Front door of the small cupboard.

'B. Back door of ditto.

'C, C. Front doors of large cupboard.

'D. Back door of ditto.

'E. Door of ditto.

'F. Door of the thigh.

'GG. The drawer.

'H. Machinery in front of the small cupboard.

'I. Screen behind the machinery.

'K. Opening caused by the removal of part of the floor of the small cupboard.

'L. A box which serves to conceal an opening in the floor of the large cupboard, made to facilitate the first position; and which also serves as a seat for the third position.

'M. A similar box to receive the toes of the player in the first position.

'N. The inner chest filling up part of the trunk.

'O. The space behind the drawer.

'PQ. The false back turning on a joint at Q.

'R. Part of the partition formed of cloth stretched tight, which is carried up by the false back to form the opening between the chambers.

'S. The opening between the chambers.

'T. The opening connecting the trunk and chest, which is partly concealed by the false back.

'U. Panel which is slipped aside to admit the player.

JOHN MAELZEL.

'In the playing of this great master, are constantly to be found a regular attack and a premeditated defence; and his remarks, whilst they prove his perfect knowledge of the game, attest the profundity of his genius.'

This gentleman, mentioned in the foregoing letter, is still the owner of the chess-playing automaton, which, from time to time, he opens to the public. He is well known as the musical mechanician of the late emperor of Austria, and is alike distinguished for his skill in mechanics, his taste for the fine arts, and the extraordinary inventive faculties of his mind. Some of the most beautiful and splendid of automatic machines are the creations of his genius; and no exhibition of a like character attracts so much attention as that which he possesses. Of his inventions the following may be enumerated: viz.—The automaton speaking figures, which articulate certain English and French words, in the hands of any person; the panharmonicon—a magnificent instrument, composed of all the pieces, rich, various and powerful as they are, of an entire military band; the animated

diorama of the cathedral at Rheims—a large and most superb representation of the kind; the automaton trumpeter, of the size of a man; and whose clarion notes cannot be equalled by those of any living performer—the time from the nature of the mechanism, being absolutely perfect; the equestrian *automata*, and the automatous slack rope dancers, which go through all the difficult feats and surprising evolutions, both of 'horse and foot' of the circus or amphitheatres, and with an agility, ease and gracefulness, so true to nature, as scarcely to be credited by those who have not witnessed them; the melodium, whose very name attests how exquisitely it is attuned to 'sweet sounds;' the automaton charlatan, never exhibited, we believe, in America; the metronome, or musical time-keeper, patented in Europe; and 'last not least,' that unique and most masterly combination of music, mechanism and design, the grand and appalling panoramic spectacle of the conflagration of Moscow.

Mr. Maelzel is also the great improver of the automaton chess-player. He gave the figure, among other things, 'those powers of speech,' which Kempelen so long essayed in vain to impart to it. Probably no man ever devoted so much time to the scientific study of chess, as Mr. Maelzel. For years, and almost every day for years, he has played a greater or less number of games, parts of games or ends of parties. The white and black *houses*, the *ranks* and *files* are as familiar to him as 'household words.' But in playing he does not stop to *think* as other amateurs do. He surveys the whole scene of action at a glance, and moves like his own automaton, in an instant—'right on'—as it were by intuition, apparently with no more reflection than that machine possesses. Nothing can be more admirable than the march of his pawns, which Philidore calls the 'soul of chess,' or the strength of his pieces. The theory and practice of this science constitute, in fact, his *business* as well as his pastime; and a perfect master of all the manœuvres of that game which our Franklin commends as the 'image of human life,' he almost invariably moves with success. Sometimes, out of politeness or compliment, he will yield a point to his antagonist; or designedly suffer himself to be beaten. But his judgment and foresight have been rendered incontestibly superior, by experience; and so sudden and complete is his triumph, whenever he wishes to conquer, that, in any series of games, no adversary can fairly cope with and defeat him. Thus it was when he performed with his androides in the presence of the allied sovereigns, by direction of his patron, the emperor of Austria, at Paris, in 1812; and so it has been ever since: and Mr. Maelzel is therefore justly accounted both in Europe and this country, the most accomplished chess-player the world has ever seen. This, in connection with what is termed 'the invariable success of his automaton, should not be lost sight off, in our attempts to discover how the wonderful movements of the androides are directed. But we must return to Dr. Brewster's letter; and in doing so, our remarks will form a distinct article, by itself, under the following caption:

The hypothesis, that 'a dwarf, or small boy, very thin, or some other person is concealed in the figure of the automaton chess-player, and looking through the vest of the androides, is thus enabled to perform the game,' is entirely refuted by an experiment made by Mr. Maelzel, upon the request of a lady, at Concert hall, in Boston, on the evening of June the 1st, 1833, in the presence of a crowded assemblage of people. After observing, that ingenious as all automatous machines mentioned in his letter really are, they sink into insignificance when compared with the automaton chess-player, which has for a long time astonished and delighted all Europe, Dr. Brewster gives an account of the figure, with drawings of its general appearance; and says that as thus described, the machine has been exhibited to thousands in Presburgh, Vienna, Paris, London, and different parts of England, without the secret of its movement having been discovered. He then proceeds to state that upon considering the operations of this automaton, the game was originally thought to be performed either by a person in the chest, or by the exhibiter himself; that the first hypothesis was excluded by the display of the interior of the machine; for as every part contained machinery, the spectators invariably concluded that not even the smallest dwarf could be accommodated within; hence, he says, the conclusion was drawn, that the exhibiter actuated it either by mechanical means, conveyed through his feet, or by a magnet concealed about his body. But no such communication, he adds, could be formed between the exhibiter and the figure; as was obvious from the fact that none was visible; and it was not necessary to place the machine upon any particular part of the floor. Hence, he also remarks, the opinion prevailed that the agent was a magnet. But even this supposition, he declares, was excluded; for the director allowed a strong loadstone to be placed upon the machine during the progress of the game; and had the moving power been a magnet, the whole action would have been deranged by a loadstone in the pockets of any of the spectators. The idea of a magnet and communication by the feet being considered as exploded, continues Dr. Brewster, many resumed the conjecture of an individual concealed in the interior; and in 1785 and '89, two works were printed at Dresden and Paris, in which the writers gave out that they conceived a dwarf—a famous chess-player, or well taught boy, very thin and small of his age might be hidden in the drawer, directly under the chess-board, and thus play the game, or perform the moves by signals from the exhibiter. But, says Dr. Brewster, although these views were plausible, yet they were never generally adopted; and when the automaton was exhibited in Great Britain in 1819 and '20, by Mr. Maelzel, it excited as intense an interest as when first produced in Germany. Having said thus much, with other remarks concerning the automaton, he insists in his epistle, on the substance of the observations of an anonymous writer, so called, who endeavors to show that the machine is capable of accommodating a *full-sized man*, and how the player can take the numerous positions inside, and perform all the various motions necessary to accomplish a successful game. To

render these more clear, he also accompanies them with engravings of the several parts of the machine, and of the different situations which he conceives must be taken, from time to time, by any person enclosed in the commode, in order to allow the whole interior to be seen by the spectators, and the game to be carried on with ease and to a prosperous termination. The most important position, or one which he fancies the individual must be in to play, he states to be shown in a front view of figure 6, and the profile view in figure 7, which the reader will now turn to and examine. 'In this position,' he asserts, 'the player will experience *no difficulty* 'in executing every movement made by the automa- 'ton. As his *head is above* the chess-board, he *will* '*see through the waistcoat* of the figure, as *easily* 'as through a veil, the whole of the pieces on the 'board, and he can easily take up and put down a 'chess man without any *other* mechanism than that 'of a string communicating with the fingers of the 'figure. His right hand being within the chest *may* 'be employed to keep in motion the wheel-work for 'producing the noise, which is heard during the 'moves, and to perform the *other* movements of the 'figure; such as that of moving the head, tapping 'on the chest, &c.' In quotations we have repeated the very words of this learned writer; and by them it will be seen he declares unequivocally, that by assuming a person to be in the interior for the direction of the machine, that direction must be given by him, while he is in the attitude above mentioned: viz.—'his head must be *above* the chess-board, that he may see through the waistcoat of the figure, as easily as through a veil,' 'and experience no difficulty in executing every movement made by the automaton.' Now, without commenting upon the inconsistency of these statements, or the incorrectness of the conclusions to be inferred from them, or dwelling for a moment upon the extraordinary, not to say impossible positions; or, at all events, the most constrained, unnatural and extremely painful situations which he sets forth, and asserts, the player must take or be in during every game, it is only necessary for the entire refutation of the views of this anonymous writer, to record in as plain a way as can be adopted, an experiment that actually took place at Mr. Maelzel's exhibition in Boston, and establishes beyond a question the utter fallacy of this hypothesis, which seems to have obtained some credit with others as well as Dr. Brewster.

Test of the hypothesis.—In 1833, a lady of the first respectability attended Mr. Maelzel's exhibition at Concert hall, in Boston. She brought with her a work containing the plates 6 and 7. A suitable opportunity presenting itself, she observed to Mr. Maelzel, she had read in the book, that there might be a person in the figure of the automaton—so placed as to be able to look through the *vest* of the androides, and thus discern how to play the chess-men, and she should like, on some occasion, if agreeable to Mr. M. to see the figure *covered up* during the progress of the game. Smiling at the suggestion, Mr. M. told her he should be pleased to gratify her request; and on the subsequent Saturday, the same lady was present again. She sat near the front benches with a party of friends; and as Mr. M. was passing near them, she reminded him of his promise. He immediately replied he would perform it with pleasure. Accordingly, approaching the androides, he took the plume from the turban. Then receiving a cloak from a little girl on the first seat, he wrapped it closely around the *vest* and *head* and *body* of the automaton. Over this cloak he wound the shawl of the lady. Over this covering he tightly fastened other pieces of cloth, and some music paper which he found on the piano forte. All this being done, Mr. M. turned to the audience and invited any one of them to play with the androides. In a few moments the challenge was accepted. A buzz now arose throughout the hall; the curiosity of the spectators was on tiptoe. 'Can he play *now?*' whispered numerous voices; all were indeed anxious to see if the automaton could perform in this novel condition. Then there was a dead silence. You might have heard a pin drop. Presently the game commenced; and the automaton made his moves, one after another, and vanquished his enemy with as quick and relentless a hand as ever. The lady and her companions were astonished. They told Mr. M. they were satisfied. The test was real, and the victory complete; and the audience joined in a general burst of applause and admiration. These are briefly the facts of the case; such was the experiment, and such the result. It took place, as before narrated, at Concert hall, in Boston, in the presence of several hundred ladies and gentlemen, on the evening of June the first, 1833.

PORCELAIN TOWER AT NAN-KING.

The emperor of China monopolizes the finest specimens of porcelain manufacture in his dominions, and it has thence been asserted, that none which has ever found its way to Europe or America, gives an adequate idea of the perfection to which the Chinese have attained in this manufacture. The Porcelain tower at Nan-King, offers proof sufficient of the very durable nature of their work. This building is of an octagonal shape, is of nine stories, and very nearly three hundred feet high, and its entire surface is covered with porcelain of the finest quality. Although this singular and beautiful edifice has been erected more than four hundred years, it has hitherto withstood all the alternations of the seasons and every variety of weather, without exhibiting the smallest symptom of deterioration.

ALWAYS READY.

Nothing is more painful to an Irishman than to be thought ignorant. Ask any common fellow in the streets of Dublin, which is the way to a place, he will take off his hat, and if he does not know, he will either direct you by an appeal to his ever ready imagination; or he will say 'I *shall* find it out for your honor immediately;' and away he flies into some shop for information.

Chevalier Poivre. A Frenchman coming out of the English court of rolls, when the late Sir Pepper Arden presided, observed to a friend, that he had just been to see *Le Chevalier Poivre Ardent*, —that is, the chevalier *Hot Pepper*.

CARE OF ANIMALS FOR THEIR YOUNG.

We are so familiar with the laws of nature which fall under our daily observation, that we cease to wonder at things in themselves the most astonishing. That animals should be enabled to continue their species by the production of young animals having the same power and propensity, notwithstanding all the individuals are subject to death, and that this end should be effected by so many special provisions having no necessary connexion with the life of the individuals, will afford to the ingenuous and candid mind, most ample proof of design and intelligence, in the great first cause to which all things doubtless owe their existence. Animals of all the various species produce young of their own kind; and except in some very rare cases, the young are always perfect animals, in all things resembling their progenitors. There is no way to account for the first establishment of this law, or for its continuance for any period of time, but to refer it to the power of a Creator, constantly in operation to uphold and sustain the admirable laws which he has established. But much more than we have stated, is still necessary to continue the various species of animals. Without the nourishment and the tender and unremitting care of parents, the young of almost all kinds of animals would perish. In order that such nourishment and care may be supplied, there is, in many cases a special provision made, by which the parent is enabled to afford the animal such nourishment as the tender and delicate offspring in the early stages of its existence may require. The existence of a set of vessels in females of the mamiferous class of animals for the supply of milk, and the circumstance that this secretion is excited by means beyond our understanding, precisely at the time it is wanted, and is likewise to be drawn off by the young by a process which affords both the parent and the offspring a pleasurable sensation, must be considered an undoubted proof of wisdom and design, which nothing but the grossest absurdity will deny.

But there are other special provisions for the nourishment of young animals which are less familiarly known to us, and, on that account are more likely to excite our admiration.

Some of the mamiferous class find the secretion of milk insufficient in quantity after their offspring have grown, but before they are able to derive their nourishment from the common food of the animal. This is sometimes the case with dogs, and the bitch has been known in such circumstances to throw up a portion of the contents of her own stomach, in a nearly digested state for the use of her whelps. By this means they were better prepared for the usual food of the species. Many birds feed their young, during the first few days after they are hatched, with small grubs and insects, and with large worms as they grow older, varying their food with their growth.

The hen pheasant leads her young brood from the nest into the grass fields in search of ant-hills, and afterward, when they are able to digest the food, into the cornfields. Some insects deposit their eggs in a substance which first serves to protect and bring them to maturity, and afterward affords food for the embryo animals, the moment it is required. It is thus in many cases that the insect provides for offspring she is destined never to see, by placing her eggs where the young moths will be sure to find the kind of food appropriate to their nourishment.

We are indebted to Mr. John Hunter for a curious and interesting account of the manner in which birds of the dove kind feed their young. He says that during incubation, the coats of the crop in the pigeon are gradually enlarged and thickened, in a manner similar to what happens to the udder of mamiferous animals. On comparing the state of the crop of the bird when not sitting, with its appearance during the time of incubation, a remarkable difference is found. In the first case, it is thin and membraneous, but when the young are about to be hatched, the whole except what lies on the trachea, becomes thicker, takes a glandular appearance and has its external surface very irregular. It is likewise evidently more vascular than in its former state, that it may convey a quantity of blood sufficient for the secretion of the substance which is to nourish the young brood for some days after they are hatched. Whatever may be the consistence of this substance when first secreted, it very probably soon coagulates into a granulated white curd, in which state it is always found in the crop. If we allow either of the parents to feed the brood, the crop of the young pigeon will be found to contain the same kind of curdled substance as that of the old one, which passes thence into the stomach where it is to be digested.

The young pigeon is fed with this substance alone for a little time, but generally about the third day some of the common food is found mingled with it. As the pigeon grows older, the proportion of common food is increased, so that when the young pigeon is seven or eight days old, the secretion of the curd ceases in the old ones, and no more is found in the crop of the young ones. It is a curious circumstance that the parent pigeon should at first have the power of throwing up this curd without any mixture of other food, though afterwards both are thrown up in the proportion required for the nourishment of the young.

CONVERSION OF THE ENTIRE SPACE OCCUPIED BY LAKE ERIE INTO A FERTILE PLAIN.

The motion of water in rivers has a sensible effe in wearing away their beds. By this means, in course of time, the face of a country may unde considerable changes. The falls of Niagara gradually changing their aspect by this cause; it is probable that a period will come, when the b of the stream between these falls and Lake Erie will be worn to a depth such as *to drain the whole of the waters of that inland sea, and convert the space it now occupies into a fertile plain!* Such a change appears to have been already produced at the falls of the Nile at Syene, which are not at all conformable to what we learn from the ancients to have existed there in former times.

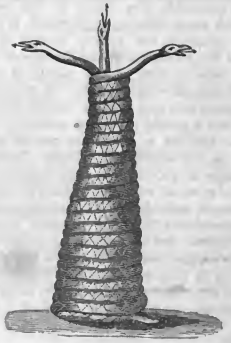
Memphis. The ruins of this once celebrated city are now so completely buried or removed, that not the least traces of them are to be discovered.

RENT ROCK IN BREWSTER.

In Brewster, on Cape Cod, is an enormous mass of granite, 16 feet high and 160 in circumference; of which a drawing is annexed. This mass is split into six or seven pieces, and appears as if it had been subjected to a powerful action of water, or some other agent, in former times. Its size, in the opinion of the State geologist, forbids the supposition that it has been removed from its bed; and probably it is the remains of a ledge which diluvial currents have worn away or buried. The sketch was taken from the west.

ARTIFICIAL PEARLS.

A costly description of glass beads, made n imitation of pearls, has long been produced in France, although the name of the inventor has been preserved the period of the invention is not precisely known. Reaumur supposes it to have been about 1656. The manner of their invention was this:—M. Jaquin having observed that upon washing a small fish, the *cyprinus alburnus*, or bleak, the water contained numerous fine particles, having the color of silver, and a pearly lustre, he suffered the water to stand for some time, and collecting the sediment, covered with it some beads made of plaster of Paris, the favorable appearance of which induced him to manufacture more of the same kind for sale. These were at first eagerly adopted; but the ladies soon finding that when they were exposed to heat, the lustrous coating transferred itself from the beads to their skin, they were as quickly discarded. The next attempt of M. Jaquin was more successful. He procured some glass tubes of a quality easily fusible, and by means of a blow pipe converted these into numerous hollow globules. He then proceeded to line the interior surface of these with the powdered fish scales, which he called the essence of pearl, or *essence d'orient*. This was rendered adhesive by being mixed with a solution of isinglass, when it was introduced in a heated state inside the globules, and spread over the whole interior surface, by shaking so beads, which, for that purpose, were placed in a wl upon the table. These hollow beads being then exceedingly thin, in order to produce a better effect, were consequently very tender. To remedy this evil, as soon as the pearly varnish was sufficiently dry, they were filled with white wax, and being then bored through with a needle, were threaded for sale. An expert workman can blow from 5 to 6000 small glass globules in a day; but as some attention is called for in regard to the shape and appearance of these beads, the produce of a man's daily labor will not much exceed one fourth of that quantity. The closer to counterfeit nature in their manufacture, these beads are sometimes purposely made with blemishes, and of somewhat irregular forms. Some are pear shaped; others are elongated like olives, and others again are flattened, on one side, in imitation of natural pearls, which are set in a manner to show only one side. The fish whose scales are put to this use are about four inches in length. They are found in great abundance in some rivers; and being exceedingly voracious, suffer themselves to be taken without difficulty. The scales furnished by 250 of these fish will not weigh more than an ounce, and this will not yield more than a fourth of that quantity of the pearly powder applicable to the preparation of beads; so that 16000 fishes are required in order to obtain only *one pound* of the *essence of pearl*. Up to a recent period the heirs of Jaquin, carried on a considerable manufactory of these mock pearls, in Paris. The fish are tolerably abundant in the river Seine; but their scales are conveyed from distant parts in much larger quantities than can be procured on the spot, for which purpose they are preserved in volatile alkali.



Brazen column of the three serpents.

SERPENTINE PILLAR.

This column of the three serpents, which is represented in our engraving, stood not many years ago, between two obelisks, in the Atmeidan or great square of the hypodrome, in the city of Constantinople. Of brass, and about fifteen feet high, the pillar represented three serpents, twisted spirally round each other, the wreaths diminishing gradually from the base to the top, whence the heads of the serpents pointed out different ways in a triangular form, rising a considerable height from the shaft of the column. It is said that Sultan Mourat broke off one of the heads. In the year 1700 the pillar was thrown down, and both the other heads were carried away. Some years afterwards the pillar was removed, but whither it was carried, or to what use it was applied, is not known. Of great antiquity, it is generally supposed that this column was brought from Delphos where it served to bear up that famous golden tripod, which the Greeks found in the camp of Mardonius, after the battle of Plataæ, and presented to Apollo. This conjecture is confirmed by

the accounts of several historians. Heroditus says expressly, that when the Persians were routed at the battle of Platœæ, there was found a golden tripod, which was restored to Apollo, and placed upon a brazen pillar, encircled with three serpents, near the altar in his temple at Delphos. Pausanias, who lived in the second century, and published a description of Greece, makes mention of the same tripod, supported by a brazen serpent; and tells us, that the brass remained whole in his time, but that the *gold* was carried off by the Phocean generals. Zosimus and Sozomen both affirm, that Constantine the Great, caused the Delphic tripods to be brought to Constantinople; but Eusebius is more clear upon this head, and relates, that Constantine set up the image of Apollo in some part of that city; and that in the Hypodrome he placed the Pythian tripod, which stood upon a tripod folded in a spiral manner. All these circumstances make it highly probable that the brazen column, of which we are speaking, came originally from Delphos, as above stated.

Porphyry Pillar.

THE BURNT PILLAR.

Westward of the Hypodrome in the great street of Adrianople in the same city, stands the burnt pillar, as it is called, being so black and scorched by the frequent fires, which have happened near it, that one cannot discover what it is made of, without a close examination. It appears, however, upon a narrow inspection, to be composed of several pieces of porphyry, the joints whereof are bound about and hid with rings of iron. Fulvius, the antiquary, is in error when he says that this pillar had an ascent within it; for it has no winding stairs—the interior being solid marble. It is said to have been brought from Rome by Constantine the Great, who caused a beautiful image of Apollo to be placed on it and called by his own name. This statue was of brass, of extreme antiquity, and surprising for its size, as well as workmanship, which was exquisitely finished. Instead of the iron rings above mentioned, the joints were anciently encircled with brazen wreaths of laurel, to signify, according to some writers, the many years that Constantine should live, and the victories he should obtain over his enemies. But perhaps the sculptor was guided solely by this consideration, that the laurel was sacred to Apollo, whose image the column supported, though it was called by the name of the emperor. Glycas reports, that towards the close of the reign of Nicephorus Bothoniates, in 1080, Constantine's column, which sustained the figure of Apollo, was much damaged by *thunder*. The account given us by Zonaras is not much different, who says, that the statue of Constantine was standing upon this pillar in his time; and that in the reign of Alexius Comnenus, who succeeded Nicephorus, it was blown off and demolished, several people who were passing by, being crushed by its fall. And the author of the history of Alexius Comnenus, supposed to be his daughter, tells us that not only the statue was struck down by lightning, but that three of the circular wreaths were also destroyed. In short this porphyry column, a view of which is given by our cut, though very ancient has not suffered so much by length of time as by fires, earthquakes, and tempests. It is raised at present upon a square marble pedestal, every way four yards broad, and six yards high, at the top of which is a cornice, after the Doric manner, and upon that stands the shaft of the pillar, the lowest stone whereof is about eleven yards in circumference. Towards the top of this column, is a Greek inscription, which, by the help of a glass, is read to the following effect. 'This admirable piece of workmanship, *being ruined by time*, was erected anew by the pious Emperor Manuel Comnenus.' That prince reigned in the twelfth century, but was far from deserving the epithet given him in the inscription.

Column of Marcian.

THE PILLAR OF THE EMPEROR MARCIAN.

About half way between the Atmeidan and Adrianople gate, in a private court-yard, near the baths of Bassa, at Constantinople, stands Marcian's pillar

This column is of granite, and had an urn of white marble on the top of it; which probably contained the heart of Marcian; burning the dead being never in use among Christians. It was erected to this emperor by Tatianus, as appears from the inscription, who was undoubtedly the same that assured Marcian, when he was only a private soldier, that he should live to be advanced to the imperial dignity; and the event having verified the prediction, he made Tatianus governor of Constantinople. Marcian became emperor by marrying Pulcheria, who succeeded Theodosius the younger. History gives him the character of an excellent prince; and he is even esteemed equal to Constantine the Great, in his innocence, charity, and zeal for the cause of Christianity. He recalled the bishops, who had been banished by a false council of Ephesus; and by his command, favor and protection, the fourth general council was held at Chalcedon, to whose decisions he gave his authority, without intermeddling in their debates. The pillar erected to him by Tatianus has no extraordinary beauty, nor is it much inquired after by those who visit Constantinople. But no doubt it appeared more graceful formerly, when the statue of the emperor stood upon the urn, as there is room to conjecture it did, from the Latin distitch engraved on its pedestal, which is not to be read without great difficulty.

'Principis hanc statuam Marciani cerne torumque,
Ter ejus vovit quod Tatianus opus.'

MINES OF MEXICO.

The metallic treasures of Mexico surpass in abundance and excellence those of any other nation. Humboldt says that 3000 mines of the precious metals have already been discovered there; and he supposes that great mineral wealth will yet be found in the rocks of the secondary formation, in the northern sections of the country.

Working of the Mexican mines.—The mining operations are carried on by individuals or companies. The working of a mine is a most extensive concern, and being attended with an immense expense, requires a vast capital. Before the revolution there were 1800 workmen in the interior of the silver mine of Valenciana, besides an administrator, with a salary of $12,000, an overseer, and a number of under-overseers, and nine or ten miners. The powder alone cost $80,000, and the steel for the implements $27,000. When Humboldt was there in 1803 a new draught-pit was opening, which was to be sunk to the astonishing depth of 1685 feet. It was eighty-seven feet in circumference, and estimated to cost $1,000,000. At this time it extended 603 feet into the bowels of the earth; and it was calculated that twelve years would be required to complete it. Pumps of vast size and breadth are used to raise the water from the shafts. A pump was some time since cast in Cincinnati, for a mine in Mexico, of 1000 feet in length, consisting of pieces of ten feet each. The profits of these mines are frequently enormous: some of them yielding an income of from 2 to 300,000 per annum.

THE BRAZEN BULL.

Perillo, a goldsmith of Agrigentum, by way of paying court to Phalaris, the tyrant, made him a present of a brazen bull, of admirable workmanship, it was hollow within, and so contrived that the voice of a person enclosed in it, sounded exactly like the bellowing of a real bull. The artist suggested to the tyrant, what an effect this must produce, were he only to imprison a few criminals in it, and make a fire under them. Phalaris struck with the idea, and perhaps curious to try the experiment, told the goldsmith that he himself was the only person worthy to animate this bull, that he must have studied the note which made it roar to the most advantage; and that it would be unjust to deprive him of the honor of any part of his invention. And thereupon he ordered the goldsmith to be shut up in it, and made a great fire around the brazen figure. As soon as the metal had become heated, the bull began to roar and bellow in the most wild and furious manner, so that all Agrigentum was filled with astonishment at its cries. Cicero says this bull was carried to Carthage at the taking of Agrigentum; and afterwards restored again by Scipio, upon the destruction of that city.

BELLS OF MOSCOW.

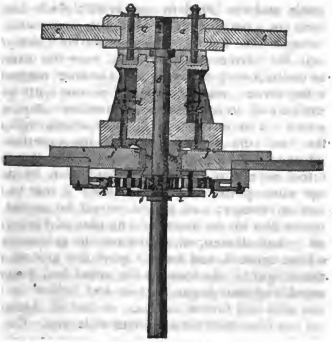
The places for divine worship in the city of Moscow, before the conflagration of that immense capital, amounted to 1800. 484 were public churches, 200 were of brick, stuccoed or white-washed; and the rest were of wood, painted red. Some of them were of stupendous size. They hung in belfries, detached from the churches; and fixed immoveably to the beams, they were rung by ropes tied to the clappers. The sounds produced by these bells may be more easily conceived than described. Boris Godunuf gave a bell of 288,000 pounds to the cathedral of Moscow, and was reckoned the most *pious* sovereign of Russia; until he was surpassed by the empress Ann, who presented a bell that weighed 432,000 pounds or 216 tons, and was considered the largest bell in the world.

RANSOM OF ATAHUALPA.

When the great inca of Peru became the victim of the infamous treachery of the Spaniards, in hopes of obtaining his liberty, he offered as a ransom, to fill the apartment in which he was confined with gold as high as he could reach. It was twenty-two feet in length and sixteen in breadth. Having received the pile of gold, Pizarro ordered it to be melted down and divided among his followers. He then caused the captive monarch to be strangled.

COCHIN CHINESE.

Some of these people exhibit remarkable agility in playing shuttlecock. They have no battledore; neither do they use the hand at all; but, after running a short distance meet the descending shuttlecock, and strike it *with the foot*, so forcibly as to drive it up high into the air. But sportive games are not the only instances in which they use their feet as others do their hands. Many of them go bare-footed. By this the muscles of the toes have free motion, and acquire a strong contractile power, so as to render the foot an useful auxiliary to the hand, in the exercise of several mechanic trades.

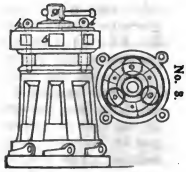


No. 1. Philips' Capstan.

IMPROVED CAPSTANS.

In consequence of a prize offered by the Academy of Arts and Sciences in Paris, so early as the year 1739, several improvements were effected in the ship's capstan then in ordinary use; but no attempt worthy of notice was made to increase the power of this instrument without diminishing its practical facilities, until the year 1819; when Captain Charles Philips, of the British navy, obtained a patent for an improved capstan, which was thought to possess important advantages. The construction of this capstan displays considerable ingenuity, and seems to have commended itself as a sort of *precedent* to subsequent inventors, who, with the exception of Mr. Morse, have generally pursued the same plan, with few material deviations. No. 1, is a sectional drawing of Captain Philips' capstan.

The drumhead is fixed upon the square end of the shaft *b*, which passes through the barrel of the capstan, and is fixed in a step upon the lower deck. The drumhead being detached from the barrel, a connexion is formed by the descent of the bolts *e*, *e*, into sockets in the barrel. At the lower part of the spindle *b*, is affixed a spurwheel, which revolves with the spindle, and gives motion to the three planet wheels *g*, *g*, *g*.; seen more plainly in No. 3. These three planet wheels move round within the stationary rim-wheel *h*, (see No. 3.) having the pivots of their axes supported in the two plates *i*, *i*, which plates form a frame or carriage to hold them, and are connected by the cylinder *m*, *m*, passing through the deck to the upper plate *l*, *l*,; which three planet wheels, plates and cylinder being thus connected, turn loosely upon the spindle *b*. The bolts *e*, *e*, which connect the drumhead to the barrel being withdrawn, and the drumhead being made to revolve, the sun or spur-wheel *f*, drives round the three planet wheels within the stationary rim, causing at the same time the two plates, the connecting cylinder and the barrel of the capstan (which is locked to the upper plate by the bolts *k*, *k*,) all to revolve with a diminished velocity, but with an increase of power. When it is wished to use the instrument as an ordinary capstan, the drumhead is secured to the barrel by the upper bolts, and the lower bolts are withdrawn. This capstan was designed by the inventor chiefly for merchant vessels. His capstan for naval ships somewhat differs from the above. In that, the plates and cylinder are dispensed with, and the rim-wheel, being attached to the lower end of the barrel, is made to turn by the revolution of the other wheels, which are retained in their relative positions as in No. 3. the three *planet wheels* in this case being *fixed*.



No. 2.

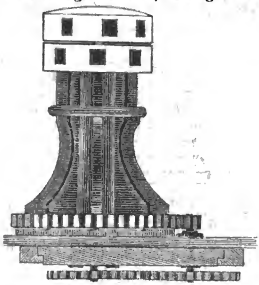
No. 2. Hindmarsh's Capstan.

The arrangement of Mr. Hindmarsh's capstan, patented in England in 1827, is very similar to the above; almost the only difference being, that the wheelwork was transferred from the bottom to the top, and placed partly in the drumhead and partly in the upper part of the barrel.

In this country, Mr. Calvin Oaks of New York, obtained a patent for an improved capstan in May, 1835, very similar to the one designed by Captain Philips for naval ships. Nearly the same apparatus and arrangement appertain to both. Mr. Oaks, however, employs but *one wheel* between the spurwheel on the shaft and the rim-wheel, instead of *three*, as in Captain Philips' capstan; thus simplifying the machinery and rendering his, in this respect, preferable to that of his predecessor. This intermediate wheel may be made to fall into gear with the others, or may be withdrawn from that position by means of a lever passing through the deck. This reduction of the number of wheels and process of changing the gear, seem to be the only novelties to which this inventor can lay claim.

As the two last described capstans are, with the variations which have been pointed out, modelled after the plan of Captain Philips, it is not strange, that the defects as well as the merits of the original, in a greater or less degree, pervade the copies. Nearly eighteen years have elapsed since this arrangement was applied by Captain Philips; and, although at first it received the approbation of the Lords Commissioners of the Admiralty, and the Board of Directors of the East India Company, still, capstans of this class have never come into use except in very few instances. And the reasons are sufficiently obvious. The machinery being out of sight, considerable delay and some difficulty will always attend the operation of putting the wheels in gear; introducing perplexity, and interfering with prompt action on ship-board. Again, the capstans must be disproportionately large, in order to allow space within for gearing of sufficient strength; and in working them, the strain comes directly upon the gearing in such manner as to cause the machinery

to bind; so that the advantages of increased power will be greatly diminished by a proportional increase of friction. We apprehend also that mariners would not easily become reconciled to the long shaft, which, passing through the deck, is fixed in a step below and must interfere with the stowing of the cargo. Much less would they approve the use of Mr. Oaks' capstan, the construction of which, aside from the defects above named, requires three holes to be made through the deck, causing it to leak.



No. 4. Morse's Capstan.

Morse's improved capstan, (see No. 4. in the drawings) for which a patent was obtained in March, 1836, differs materially from the class we have described, and possesses feasibilities in which the others are altogether deficient. This capstan consists of a hollow shaft fixed firmly in the deck, around which the body of the capstan, propelled by levers at the lower head, revolves as a simple capstan, whenever it is wanted for quick and easy movements. Whenever an increase of power is required, the levers are applied to the upper drumhead, which is fixed upon a stout iron shaft, passing through the hollow one first mentioned, and extending to the lower surface of the deck. Upon the lower end of the shaft is fixed a spur-wheel, which engages another spur-wheel fixed upon a second shaft, which passes up through the deck. The upper end of this second shaft is furnished with a pinion wheel, removable at pleasure, which plays into a strong spur-wheel made fast to the bottom of the capstan. Thus the power is increased in a degree dependent upon the proportionate sizes of the train of wheels. The only portion of the work which occupies space in the vessel more than the common capstan, is the pinion wheel above deck, about six or eight inches in diameter, which may be removed when the ordinary capstan is sufficient, and can be instantaneously replaced whenever increased power is needed.* The wheelwork below plays so near the deck as not to occupy any space, which might be needed for other purposes. The part answering to the common capstan may be worked without removing the pinion, as it has been found by actual trial that its operations are impeded thereby in scarcely a perceptible degree; and in this case, each part can be used at pleasure by merely transferring the levers from one drumhead to the other.

Several of these capstans have been attached to vessels, and are found to possess all the advantages which the most sanguine could anticipate. To the leading novelties of this improvement, viz. *the hollow shaft, the extra cap and outward gear,* the inventor has added a very judicious arrangement, uniting in his improved capstan immense power, with great simplicity of construction, and perfect adaptation to use. The journals being independent of each other, and the gearing communicating at the periphery of the wheels, will not be subject to increase of friction, and the machinery will not be liable to bind when power is heavily applied at the levers. Judging from the unqualified approbation which this capstan has received from hundreds of mariners and practical men, who have seen it in operation, and can appreciate its merits, the time is not distant, when it will be considered an invaluable and *indispensable* apparatus on ship-board.

PRESSURE OF THE SEA.

If a piece of wood which floats on water be forced down to a great depth in the sea, the pressure of the surrounding liquid will be so severe, that a quantity of water will be forced into the pores of the wood, and so increase its weight, that it will be no longer capable of floating or rising to the surface. Hence the timbers of ships, which have foundered in a deep part of the ocean, never rise again to the surface, like those which are sunk near the shore. A diver may with impunity, plunge to certain depths in the sea; but there is a limit beyond which he cannot continue to live under the pressure to which he is subject. For the same reason it is probable that there is a depth, below which fishes cannot live. They have, according to Joslin, been caught in a depth, at which they must have sustained a pressure of *eighty tons to each square foot* of the surface of their bodies.

CATARACT OF TEQUENDAMA.

The heights of cataracts of the great rivers of the world, though commonly much exaggerated, are still such as to place these tremendous phenomena among the most appalling of natural appearances. The celebrated cataract of Tequendama, formed by the Rio Bogota, in South America, was long considered to be the highest in the world, the fall having been estimated by Bouguer to be not less than fifteen hundred perpendicular feet. Humboldt, however, has more recently found the calculation to be erroneous, and has shown that the height of the fall does not exceed six hundred feet. The stream before it approaches the precipice, has a breadth of 140 feet, which immediately contracts, and at the edge of the abyss is reduced to thirty-five feet.

AIR VESSEL IN FISHES.

Fishes have a power of changing their bulk, by the distension of an air vessel, with which they are provided; they can thus at will displace a greater or lesser quantity of water. When they enlarge their bulk, so as to displace more water than their own weight, they rise to the surface; and when, on the other hand, they contract their dimensions, so as to displace less water than their own weight, they sink to the bottom.

FUNERAL ORATION, ON PETER FANEUIL, ESQ.

Delivered at Faneuil Hall, March 14th, 1742, being the first meeting of the inhabitants of Boston in that place. By JOHN LOVELL, A. M.

I stand in this place, my fellow townsmen, and my worthy patrons, at the call of those to whom you have committed the direction of your public affairs, to condole with you for the loss of your late generous benefactor, the founder of this house. Certain I am, there are numbers in this great assembly, who could upon this occasion have done more justice to his memory, and have better discharged the office that is enjoined me. But the commands of those (for such I must always esteem their desires) who have devolved this charge upon me, and the veneration I have for the virtues of the deceased, oblige me to bear what little part I can, in a grateful acknowledgement of the just regard due to the memory of a man, whose name, I am sure, will never be forgotten among us.

How soon, alas! is our joy for having found such a benefactor, changed into mourning for the loss of him! But a few months are passed, since we were framing votes, and consulting the best measures to express our gratitude for his unexampled favors; and the first annual meeting within these walls that were raised by his bounty, finds us assembled in the deepest sorrow for his decease.

Instances of mortality are never more affecting than in those whose lives have been public blessings. Surely then, every breast must feel a more than common distress, for the loss of one, whose largeness of heart equalled, great as it was, his power to do good. Honest industry must mourn, for which the exercise of his bounty found an almost constant employment: And they that know how to pity the calamities of human nature themselves, will mourn for him that always relieved them.

So soon as he arrived to the possession of his large and plentiful estate; instead of fruitlessly hoarding up his treasures, though no man managed his affairs with greater prudence and industry; instead of wasting them in luxury, though plenty always crowned his board; instead of neglecting the wants of his fellow creatures, an unhappy circumstance too often attending the possession of riches, he made it manifest that he understood the true improvement of wealth, and was determined to pursue it. It was to him the highest enjoyment of riches, to relieve the wants of the needy, from which he was himself exempted, to see mankind rejoicing in the fruits of his bounty, and to feel that divine satisfaction which results from communicating happiness to others. His acts of charity were so secret and unbounded, that none but they who were the objects of it can compute the sums which he annually distributed among them. His alms flowed like a fruitful river, that diffuses its streams through a whole country. He fed the hungry, and he clothed the naked, he comforted the fatherless, and the widows in their affliction, and his bounties visited the prisoner. So that Almighty God in giving riches to this man, seems to have scattered blessings all abroad among the people.

But these private charities were not the only effects of his public spirit, which, not contented with distributing his benefactions to private families, extended them to the whole community. Let this stately edifice which bears his name witness for him, what sums he expended in public munificence. This building, erected by him at an immense charge, for the convenience and ornament of the town, is incomparably the greatest benefaction ever yet known to our western shore. Yet this effect of his bounty, however great, is but the first fruits of his generosity, a pledge of what his heart, always devising liberal things, would have done for us, had his life been spared. It is an unspeakable loss to the town, that he was taken away in the midst of his days, and in so sudden a manner, as to prevent his making provision for what his generous heart might design. For I am well assured, from those who were acquainted with his purposes, that he had many more blessings in store for us, had heaven prolonged his days.

But he is gone! The town's benefactor, the comforter of the distressed, and the poor man's friend.

He is gone! And all his plans of future bounties with him, they are buried in the grave together. He shall be raised to life again: And his intended charities, though they are lost to us, will not be lost to him. Designs of goodness and mercy, prevented as these were, will meet with the reward of actions.

He is gone!—And must such men die! die in the midst of their days! Must the protectors and fathers of the distressed be taken away, while their oppressors are continued, and increase in power!—Great God! How unsearchable are thy ways!—We confess our sins, but just and righteous art thou.

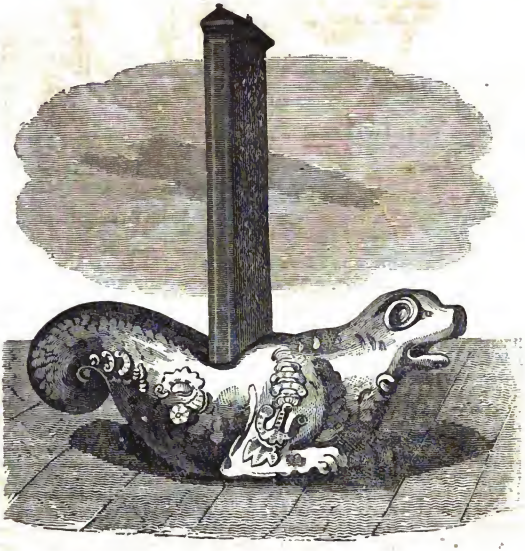
To express your gratitude to your generous benefactor, you have passed the most honorable resolves, and to preserve his memory, you have called this house by his name. But in vain, alas! would you perpetuate his memory by such frail materials! These walls, the present monuments of his fame, shall moulder into dust: These foundations, however deeply laid, shall be forgotten. But his deeds, his charities, shall survive the ruin of Nature. And to have relieved the miseries of the distressed, to have stilled the cries of orphans, and to have dried the widow's tears, are acts that shall embalm his memory for many generations on earth, and shall follow him beyond the limits of mortality, into those blissful regions where endless charity dwells.

What now remains, but my ardent wishes (in which I know you will all concur with me) that this hall may be ever sacred to the interests of truth, of justice, of loyalty, of honor, of liberty. May no private views nor party broils ever enter within these walls; but may the same public spirit that glowed in the breast of the generous founder, influence all your debates, that society may reap the benefit of them.

May Liberty always spread its joyful wings over this place: Liberty that opens men's hearts to beneficence, and gives the relish to those who enjoy the effects of it. And may loyalty to a king, under whom we enjoy this liberty, ever remain our character. A character always justly due to this land, and of which our enemies have in vain attempted to rob us.

May those who are the inheriters of the large estate of our deceased benefactor, inherit likewise the largeness of his soul. May the widow, the orphan, and the helpless, find in them a protector, a father and a support. In a word, to sum up all, may FANEUIL live in them.

May charity, that most excellent of graces, that beam from the breast of the Father of mercies, which, so soon as ever it enters our bosoms it begins our happiness; charity, the joy of men, of angels, of Almighty God; which completes the felicity of earth and heaven: May it warm the hearts of those who are like to our departed friend in their fortunes, to resemble him too in his bounties: May there be raised up some new benefactors in the room of him we have lost, who shall, if possible, rival Faneuil's spirit. And may there always remain in this town, the same grateful sentiments, the same virtuous dispositions, to remember their benefactors with honor.



Singular Monument.

LINGAM.

On the return from Pekin, of Earl Macartney, the first English ambassador to the court of China, a gentleman of the embassy went into an open temple on one side of the causeway, where he descried a curious figure, which he imagined was meant to represent the *Lingam* of the Hindoos, or a heathen god of the gardens. Upon examination it proved to be a column, resting upon the back of an animal, of the lizard kind, but of sculpture; an exact representation of which will be seen by referring to the above plate. No particular or satisfactory information could then be obtained respecting it. He supposed, however, that the column was intended as a monument for Chinese inscriptions, with which one face was nearly filled. No person present on the occasion alluded to could decipher any of these inscriptions; nor has any English or American traveller in that country, since the period mentioned, as far as we can learn, furnished the public with any additional account of this extraordinary figure.

BLACK AND GILDED TEETH.

With the Javanese, *black* teeth constitute the standard of *beauty*. Accordingly they sedulously paint their teeth black, of the deepest hue, the two anterior ones in the middle excepted, and these they cover with *gold leaf*. The operation is repeated as often as it is necessary to keep them in this state; and the Javanese compare those persons to monkeys who preserve the natural color of their teeth.

Jupiter of the Chinese.

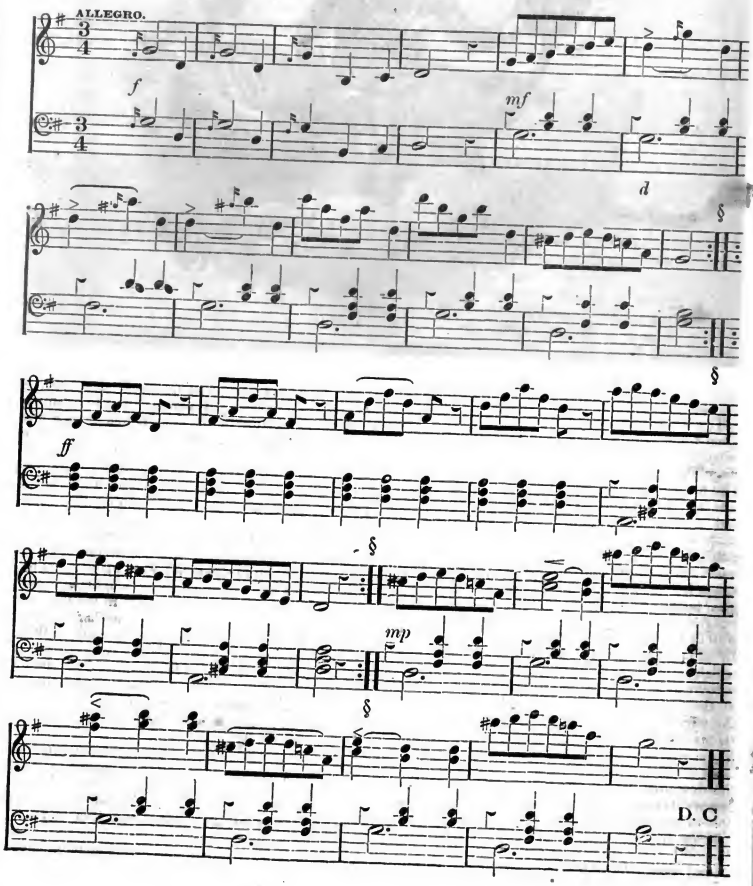
LUISHIN.

The temples of Pekin have no claim to elegance when compared to the palaces of that city. The religion of the emperor is performed with much magnificence in Tartary, but in China it is new. The mandarines and men of letters venerate Confucius, and assemble in halls of simple construction; and the lower classes of the people are unable to contribute to the erection of splendid edifices for public worship. Besides, their religious attention is much taken up with their household gods. Every house has its altar and its deities. Their mythological books contain similitudes of those whom they imagine preside over their persons and properties as well as over external objects likely to effect them. In the representation of *Luishin*, or the spirit which commands thunder,—the violence of that meteor which nothing can withstand,—the velocity of the lightning which nothing can surpass,—and the effects of both united, are designed by the monstrous figure in the annexed engraving, and which is denominated the Jupiter of the Chinese. The beak of an eagle terminates his chin, emblematic of the devouring effects of thunder; while the wings denote its amazing velocity. He grasps a thunderbolt in one hand, and a truncheon in the other for striking the kettle-drums, with which he is environed. Sometimes the eagle's talons are represented as placed upon the axis of a wheel, upon which he darts through the clouds with increased rapidity. After the extraordinary figure above described, it may not be considered mal-à-propos to mention another—a creature of the imagination among the Chinese, but by them called a lion. Two large bronze figures, supposed likenesses of that animal, are placed upon two marble pedestals, before one of the gateways, leading to the hall of audience at Yuen-men-yuen. Each figure was originally composed of at least an hundred different pieces of that metal, cast separately, but adapted to each other in so ingenious a manner as to form a whole. These figures, so unlike to what they were made to represent, might almost be mistaken for knights in armor with periwigs, such as were worn in the time of king Charles. The lion is not bred in that country, nor has any one ever been transported thither, either as a public spectacle for profit, or as a present to the emperor. These statues must therefore have been bad imitations from incorrect drawings of the lion, whose superior strength and imputed generosity have gained him notice beyond the extent of his travels.

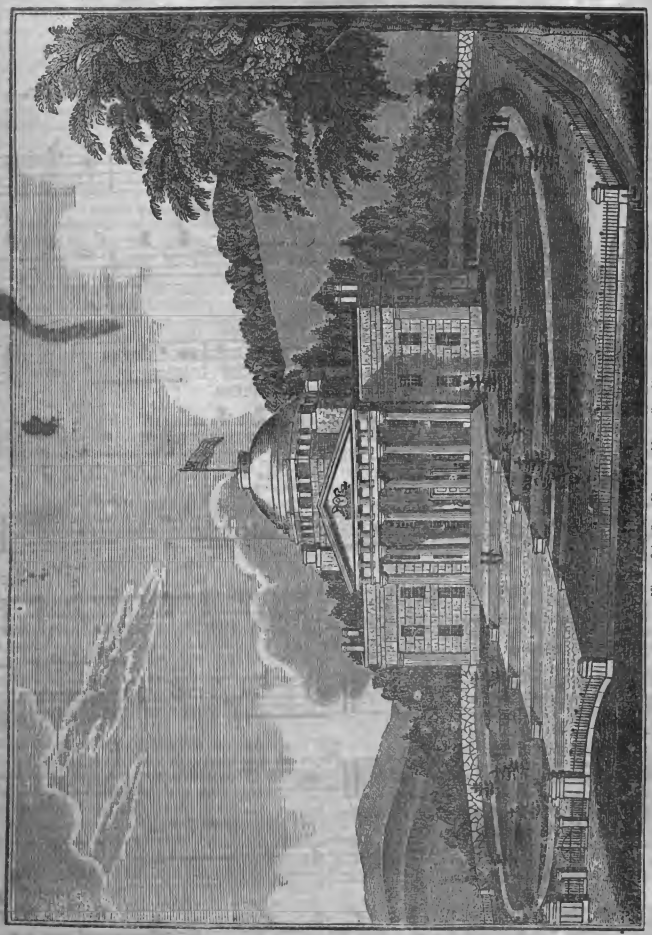
Ignorant people, who have not learned to exercise their rational faculties, are always disposed to exalt the imagination, in the place of reason. Hence, those who have been ambitious of authority, have found it convenient, in all pagan countries, to attribute supernatural powers to some monstrous form, and immediately ignorance and superstition have fallen down to worship it.

Tremont Waltz.

Composed for the American Magazine, by Ch: Zeuner.



MARCH.



View of the State House at Montpelier, Vermont

THE VERMONT STATE HOUSE.

The annexed engraving represents a south-east front view of the State House at Montpelier, the capital and seat of government of the State of Vermont. This building, beautiful alike in design, architectural character and execution, stands on an elevated site, about 325 feet north of State street, on which it fronts. The situation is commanding, the State House being the first prominent object that meets the eye as you enter the village from any quarter, and presents an imposing, grand and beautiful structure. The grounds and yard pertaining to the building are large and spacious, and when finished (which will be done previous to October, 1837) as laid out will be a *chef d'œure* of the kind. The entrance to the grounds and principal approach to the house from State street, is noble and magnificent, the design and execution are in the best taste. It is through a gateway, having massive granite piers on each side, along a walk covered with pounded granite, seventy-two feet wide, and up a flight of granite steps, corresponding in length to the width of the walk, and leading to the portico of the house. The whole design is simply grand and appropriate, the elevation being about thirty-two feet above the street, after proceeding towards the house about 200 feet on a slightly inclined plane, you ascend an easy flight of stairs, interspersed with four broad spaces which are slightly inclined; in this way the rise to the house becomes easy and agreeable, and gives to the building that consideration it should have as the capital of a flourishing, independent State. The building in its design is very neat and simple, a chaste architectural character being preserved throughout the whole; this combined with the convenience of interior arrangement, and the stability of its construction, renders this edifice equal in beauty and convenience to any in New England, exhibiting in the exterior and interior one of the most chaste specimens of Grecian architecture in the United States.

The building is in the form of a cross, showing in front a centre seventy-two feet broad, and two wings, each extending thirty-nine feet, making the whole length 150 feet. The centre (including the portico of eighteen feet,) is 100 feet deep, and the wings, (of which the front of each stands twenty feet back of that of the portico,) are fifty feet deep. The centre is ornamented with a portico, extending its whole width, consisting of six granite columns, six feet in diameter at the base, four feet eight inches at the top, and thirty-six feet high, supporting a massive entablature and a pediment of classic proportion, the tympanum of which is intended to be ornamented with the arms of the State in *basso relievo* having acrotera at the ridge and eaves. The whole is crowned with a dome of elegant proportions, rising thirty-six feet above the ridge, and making the whole heighth from ground to the top of the dome 100 feet. The order of architecture used on the exterior is the purest doric, made to conform to the peculiar arrangement necessary in this building. The wings are distinguished by antæ at the corners, which are surmounted with an entablature and balustrade of bold and simple parts, continued quite around, without opening or breaks; the wings to the top of balustrade are forty-six feet high; the exterior walls and portico are of a beautifully colored dark granite, quarried about nine miles from the State House, in the town of Barre, and wrought in a very superior manner; the roof and dome are covered with copper. The interior is entered in front, from the portico, through a door eight feet wide, opening into an entrance hall thirty-two by thirty-eight feet, fourteen feet high, the ceiling of which is supported by six granite columns, eighteen inches in diameter at the base, of the Grecian Ionic order, and is panelled after the manner of the ceilings to the porticoes of ancient temples. There are three other entrances, one from each end of the house, through doors five feet wide, into passages ten feet wide, which communicate with the entrance hall by corridors eight feet wide; and one in the rear of the centre, six feet wide, opening into a passage twelve feet wide, leading to the entrance hall. In the lower story is a room twenty by sixteen feet, for the secretary of State, with a fire proof safe, ten by sixteen feet, for records; adjoining, a room for State's treasurer, fourteen by twenty-two feet, with a fire proof vault; a room for the auditor of accounts of same size, twelve rooms for legislative committees, six of them very large and spacious, and two rooms for furnaces to heat the principal halls and rooms in the second story. From the entrance hall there are two stair cases, leading to the second or principal story, one being on the right and the other on the left as you enter from the portico; these land in two circular halls or landings, twenty feet in diameter, from which there are communications with the rooms adjoining, and a flight of stairs to the galleries of the representatives' hall and senate chamber, and also to committee rooms in the third story. From these landings you pass into the vestibule of the representatives' hall, eighteen by thirty-six feet, eighteen feet high; the ceiling panelled after the Grecian style, and the whole room finished in a very neat and elegant manner, having niches for statues, and panels for paintings; from this you enter the representatives' hall, through a door five feet wide and ten feet high. This hall is sixty-seven feet in length by fifty-seven in width, and thirty-one feet high, it is unequalled in simplicity and elegance of design as well as for convenience in doing business. For the ease with which a person can speak and readily be heard, this room is not surpassed by any of its size.

It is furnished with cushioned seats, and desks for the members, and with cushioned settees for members of the senate when in joint convention. The speaker's table and the desks for the clerks are made of black walnut, very neat and appropriate in their design. In this room is a gallery and a lobby under it for the accommodation of spectators; from the circular landing on the east, you enter the senate chamber forty-four feet in length by thirty in width, and twenty-two feet high, of an oval form, and finished in the Ionic order of architecture; the ceiling is arched and panelled, being eliptical in its horizontal, and hyperbolical in its perpendicular section, with a false skylight in the centre; it was therefore quite difficult of execution. It rises from a continued entablature, which is without perpen-

dicular breaks. The judicious form of the arch, the mouldings and the breaks of the panels, produce a most beautiful combination of light and shade. In it you behold every gradation from the brightest light to the deepest shade, uniting to produce such a treat to the eye of taste as is seldom found. The president, members, and secretaries to the senate are furnished with black walnut tables, and mahogany chairs, all very neat and appropriate; in this room is a gallery for spectators generally, and under the gallery is a lobby for ladies, and such gentlemen as are introduced by members, or are entitled to a seat there by privilege. Adjoining this easterly landing is an office for the secretaries of the senate, and two for the clerks of the house of representatives.

From the west landing you enter the governor's room, twenty by twenty-four feet, eighteen feet high, through an ante-room about fifteen feet square, the decorative part of the finish to the governor's room is in the purest style of the Corinthian order of architecture, and in its ensemble is very striking and beautiful; this room is also entered through a passage from the landing. Adjoining the ante-room is an office for the governor's secretary of civil and military affairs; this also communicates with the west landing; you also from this landing enter the library, thirty-six feet in length by eighteen in width, and twenty feet high; it has a gallery and shelves quite around, capable of holding 10,000 octavo volumes; this also is finished in a very neat and appropriate manner, and painted in imitation of southern oak; in an attic or third story there are nine more committee rooms.

The whole building is built and finished in the most thorough and workmanlike manner; it was designed by Ammi B. Young, architect, and erected under his immediate superintendence and inspection. It will cost, including purchase of land, blasting of the ledge for the site, and finishing the yard and fence, $130,000. Of this sum the inhabitants of Montpelier paid $15,000—raised by a subscription.

SEQUEL TO THE BISON CHASE.

Count de Pourtales found. In the February number of this magazine, we furnished the reader with Latrobe's account of a 'Bison chase on the big prairie, and loss of Count de Pourtales;' we now give Latrobe's 'Sequel to the Bison chase.'

There were three ways of accounting for the disappearance of my friend. The first, and the most probable was, that he had pursued the herd without thought or attention to direction or distance, or the approach of evening, and had eventually been unable to find the creek upon which we lay. No one could wonder at this, as the commencement of one creek upon the upper lands was hardly to be distinguished from another; and it will be recollected that none of us had been at the camp previous to the chase. The second surmise was, that he had been turned upon and gored by one or other of the herd; and the third that he had been fallen in with by some roving band of Indians. However, our duty was clear, and as soon as it was day, a party was in readiness to go on the scout, consisting of Mr. Irving and myself, twelve of the best rangers, and our three domestics. The general orders in camp were: that the men should employ themselves in drying sufficient beef to last them for eight or ten days, and that none of them should hunt to the south or east, lest their trails might be an embarrassment to us in the pursuit of our object. We had no difficulty in leading our companions to that part of the country which had been the scene of our chase, as we had fixed upon sure land-marks; nor yet in putting them upon the trail—as there lay the bison, over which the wolves and vultures were still quarrelling; nor did we meet any great interruption in following the track of the animals for a few miles, as the soil was soft, and it was seen that the marks of a horse's hoof bore them faithful company. We had proceeded perhaps half an hour in this manner to the south-east, when the appearance of a number of bison in full gallop, over a distant swell of the prairie, brought us to a stand. '*Qu-qu-qu'il est la*,' exclaimed Tonish; and so we all thought, when a human figure mounted and in full career appeared swiftly passing and vanishing in pursuit. But when a second figure immediately followed, the general impression with us all was, that they were Indians, and that idea linking itself with the fate of our companion, with one impulse we set off in a mad gallop across the country towards the point where they had been seen. We soon crossed their trail; became satisfied at once that they could not be the Pawnees at any rate, as the horses were evidently shod; and after following the track a short distance, found in a hollow two of the rangers, who by disobeying orders, had given us this unnecessary panic. We had now to detect the real trail again, and half an hour was lost in doing it. By following it further we shortly after came to the place where it was evident that the object of our search had given up the chase, as the deeply-indented hoof-marks of the herd had wheeled off to the northward, and the solitary footsteps of the hunter were seen to diverge south. Now the greatest care was necessary, and our anxiety was proportionally great. The trail continued good, leading us towards the Canadian, till we came upon hard stony ground, and the country gradually declined to the bed of a creek running due south towards the river. For an hour longer the search continued with increasing interest and anxiety. Our comrade seemed now to have wandered to and fro on the swell, and then down in the hollow among the thickets. We could almost divine the thoughts of the rider from the appearance of the trail. Here he was undecided, and stood to look around him; and there got a bright idea and trotted briskly on. Sometimes the marks were altogether lost from the nature of the ground; and then our lynx-eyed half-breeds would find them again, by the mere depression of a blade of grass, or a small pebble uprooted from the soil, or a scratch upon the stones. We had seen game enough during the morning,—bison, horses, antelopes and deer; but having a superior chase in view, had passed them all by. However, about noon, a herd of deer, led by a noble buck, rose so near us, that Battie could not withhold a shot. The report of his piece was followed by a distant halloo. No object appearing

in sight, each spurred his horse in the direction from which the sound came to his ears, and an instant after we saw our lost comrade galloping towards us. I need not tell that the meeting was a joyous one, and that none could feel it in a greater degree than myself.

His tale was a simple and straight-forward one. The fall of the second bison had given him the spur, and he followed the herd, and bombarded them till he had no ammunition left. He then began to think of rejoining us, or at least of finding the camp. As had been surmised, he had been deceived by the similarity of the different creeks, and had taken one leading to the wrong point of the compass. Night came on; he became convinced he was lost, and after divers wanderings to and fro on the broken ground, in the bushes about the hollow, and in the creek, he wisely resolved not to add to his own fatigue, and to our difficulties in trailing him, by further struggles. He therefore fixed upon a large tree within sight of the place where we eventually met, dismounted, tied the fore-legs of his horse together with a handkerchief, and let him go loose to shift for himself. A fire he could not make, so he climbed up with the saddle into a commodious fork of the tree, succeeded in making himself a safe and easy seat, and, in spite of appetite, cold, and a serenade of wolves, contrived, by his own account, to get ten hours sound sleep. The early hours of the day had been passed in comparative tranquillity of mind, as he never doubted but that we should know his trail, and therefore did not move to any great distance from his night quarters. As noon approached, and he had seen nothing of us, some anxiety began to creep into his mind, when the shot was heard, and his rescue from his hungry and anxious position followed as related. He deserved and got great credit for his good sense and philosophy. And our return to camp was a matter of course.

SPRINGS AND ARTESIAN WELLS.

The phenomena of springs are of such importance as to interest almost every portion of the community. Every one is familiar with the fact that certain porous soils, such as loose sand and gravel absorb water with rapidity; and that the ground composed of such soils soon dries after heavy showers. If a well be sunk in such soils, we often penetrate to considerable depths before we meet with water; but this is usually found after approaching the lower parts of the porous formation, where it rests on some impervious bed; for here the water, unable to make its way downward in a direct line, accumulates as in a reservoir and is ready to ooze out into any opening which may be made, in the same manner as we see salt water flow into and fill any hollow which we may dig in the sands of the sea shore at low tide.

The facility with which water can percolate loose and gravelly soils is found to be much greater than would, at first view, be anticipated. Between London and Richmond there are wells at the distance of several hundred feet from the banks of the river, in which the water regularly ebbs and flows with the tide. The Thames in this part of its course flows through a bed of gravel resting upon clay, and the porous superstratum is alternately saturated by the water of the river as the tide rises, and then drained again when the tide falls.

If the transmission of water through a porous medium be so rapid, we cannot be surprised that springs should be thrown out on the side of a hill, where the upper set of strata consists of sand, or other permeable substances, while the lower strata are composed of clay and other retentive soils. The only difficulty is to explain why the water does not ooze out alike in every part of the line of junction, between the two formations, so as to form one continuous land soak instead of a few springs only, and these at considerable distances from each other. The principal cause of this concentration of the waters at a few points is, first, the frequency of rents and fissures, which act as natural drains; secondly, the existence of inequalities in the upper surface of the impermeable stratum which lead the water, as vallies do on the external surface of a country, into certain low levels and channels. That springs generally owe their supply to the atmosphere, is obvious from the circumstance, that after long droughts they become languid, or entirely cease to flow, and after a rain are again replenished. Many of them are probably indebted, for the constancy and uniformity of their volume, to the great extent of the subterraneous reservoirs with which they communicate, and to the time required for these reservoirs to be emptied by percolation. Such is the gradual and regulated discharge, though in a less perfect degree, in every great lake, which is not sensibly affected in its level by sudden showers but only slightly raised; so that its channel of efflux instead of being swollen suddenly, like the bed of a torrent is enabled to carry off the surplus water gradually.

Much light has, within a few years, been thrown upon the theory of springs by the boring of *artesian wells*. These wells are so called by the French because the method, having been long known and practised in Artois, has been extended thence to other places. The instrument employed in excavating these wells is a large auger, and the cavity excavated is from three to four inches in diameter. If a hard rock is met with, it is first triturated with an iron rod, and the materials being thus reduced to small fragments, or to powder, are easily extracted. To hinder the sides of the well from falling in, and also to prevent the ascending water from spreading in the surrounding soil, a jointed pipe is introduced, formed in Artois, of wood, but in other countries more commonly of metal.

It frequently happens that after passing through hundreds of feet of retentive soils, a water bearing stratum is, at length reached, when the fluid immediately ascends to the surface and flows over. The first rush of the water up the tube is often violent, so that for a time the water plays like a fountain, and then sinking, continues to flow over tranquilly, or sometimes remains stationary at a certain depth below the orifice of the well. This spouting of the water, in the first instance, is probably owing to the disengagement of air or carbonic acid gas, for both these substances have been found to bubble up with the water.

We are informed by Lyell, the geologist, that at Sheerness, at the mouth of the Thames, a well was bored on a low tongue of land near the sea, through 300 feet of the blue clay of London, below which a bed of sand and pebbles was entered, belonging probably to the plastic clay formation; when this stratum was pierced the water burst up with great impetuosity and filled the well. By another perforation at the same place, water was found at the depth of 328 feet below the clay of the surface; it rose rapidly at first to the height of 189 feet, and then in the course of a few hours ascended to a level of eight feet above the ground. In 1824 a well was bored at Fulham, near the Thames, to the depth of 317 feet, which after traversing the tertiary strata, was continued through sixty-seven feet of chalk. The water immediately rose to the surface, and the discharge was more than fifty gallons a minute. In the garden of the horticultural society at Chiswick, the borings passed through nineteen feet of gravel, 242 feet of clay and loam, and sixty-seven feet of chalk, and the water then rose to the surface from a depth of 329 feet. At the Duke of Northumberland's, above Chiswick, the borings were carried to the extraordinary depth of 620 feet, so as to enter the chalk, when a considerable volume of water was obtained, which rose four feet above the surface of the ground. In a well of Mr. Brooks at Hammersmith, the rush of water from a depth of 360 feet was so great as to inundate several buildings, and do considerable damage, and at Tooting a sufficient stream was obtained to turn a wheel and raise the water to the upper stories of the houses. In the last of three wells bored through chalk, at Tours, to the depth of several hundred feet, the water rose thirty-two feet above the level of the soil, and the discharge amounted to 300 cubic yards of water every twenty-four hours.

The excavation, in New York, of the great well for the city tank, to the depth of 100 feet, sixteen feet in diameter, with two horizontal shafts of four feet square, yields 8000 gallons a day or 333 in an hour, at the rate of between five and six gallons a minute. This, though not an artesian boring, serves to illustrate our principle.

A perforation in Bleeker street of 442 feet, yields 44,000 gallons a day, or 1833 in an hour, which is at the rate of about thirty gallons a minute, or half a gallon in a second.

Excavations have also been made in the same way to the depth of eight and even to 1200 feet without success. A similar failure was experienced at Calcutta in boring through the alluvial clay and sands of Bengal. Mr. Briggs the British consul in Egypt obtained water between Cairo and Suez in a calcareous sand, at the depth of thirty feet, but it did not rise in the well.

The geological structure of the great desert of Sahara is supposed by M. Rozet, to favor the prospect of a supply of water from artesian wells, as the parched sands on the outskirts of the desert rest on argillaceous marl.

The rise and overflow of water in these wells is generally referred, and apparently with reason, to the same principle as the play of an artificial fountain. Let the porous stratum or the set of strata

a a rest on the impermeable rock *d* and be covered by another mass of an impermeable nature. The whole mass, *a a*, in such a position, may easily become saturated with water which may descend from its higher and exposed parts, a hilly region to which the clouds are attracted and where the rain falls in great abundance. Suppose that at some point, as at *b*, an opening be made which gives a free passage upward to the waters confined in *a a*, and at so low a level, that they are subjected to the pressure of a considerable volume of water collected in the more elevated portion of the same stratum. The water will then rush out, as the liquid runs out of a large barrel which is tapped, and it will rise to a height corresponding to the level at its point of departure, or rather to a height which balances the pressure previously exerted by the confined waters, against the roof and sides of the stratum, or reservoir *a a*. In like manner, if there happens to be a natural fissure *c*, a spring will be produced at the surface, on precisely the same principle.

Among the causes of the failure of artesian wells, we may mention those numerous rents and faults, or breaks with a dislocation of a portion of the strata, which abound in some rocks, and also the deep ravines and valleys by which many countries are traversed, for, when these natural lines of drainage exist, there remains only a small quantity of water to escape by artificial issues. We are liable to be baffled also, by the great thickness either of porous or impervious strata, or by the dip of the beds, which may carry off the waters from adjoining highlands, to some trough in an opposite direction. This will probably happen, when the borings are made at the foot of an escarpment, or slope, where the strata incline inwards, or in a direction opposite to the face of the cliff.

The mere distance of hills or mountains, need not discourage us from making trials; for the waters which fall on these higher lands, readily penetrate to great depths, through highly inclined, or vertical strata, or through the fissures of shattered rocks, and after flowing for a great distance, must often reascend, and be brought up again by other fissures, so as to approach the surface, in the lower country. Here they may be concealed beneath a covering of undisturbed horizontal beds, which it may be necessary to pierce, in order to reach them. It should be remembered, that the course of water flowing under ground, bears but a remote resemblance to that of rivers flowing on the surface, there being in the one case a constant descent from a higher to a lower level, from the source of the stream to the sea: whereas in the other, the water may at one time sink far below the level of the ocean, and afterwards rise again above it.

Among other curious facts ascertained by the aid of the borer, it is found, that there are often open

passages by which the subterranean waters circulate. Thus at St. Diner, in France, five distinct sheets of water were intersected in a well, from each of which a supply was obtained. In the third water bearing stratum, a cavity was found in which the borer fell suddenly about a foot, and thence the water ascended in great volumes. The same falling of the instrument as in a hollow space, has been remarked in England and other countries. At Tours, in 1830, a well was perforated quite through the chalk, when the water suddenly brought up from a depth of 364 feet a great quantity of fine sand, with much vegetable matter, and shells; branches of a thorn several inches long, much blackened by their stay in the water, were recognized, as also the stems of marsh plants and some of their roots, which were still white, together with the seeds of the same, in a state of preservation, which showed that they had not been more than three or four months in the water. Among the seeds were those of the marsh-plant, *galium uliginosum*; and among the shells a fresh water species, and some land species. M. Dujardin, who with others observed these phenomena, supposes the waters had flowed from some vallies of Auvergne, or the Viverais, between the time of the observation and the preceding autumn.

An analogous phenomenon was seen at Rienke, near Bochum, in Westphalia, where the water of an artesian well brought up from a depth of 156 feet, several small fish, three or four inches long, the nearest streams in the country being some leagues distant. In both cases, it is evident that the water had penetrated to great depths, not simply by filtering through porous masses, for then it would have left the shells, fish and fragments of plants behind, but by flowing through some open channels in the earth. Such examples may suggest the idea that the leaky beds of rivers are often feeders of springs.

DESCENT OF THE EUPHRATES BY STEAM.

By letters which have been received in England, from an officer of the Euphrates expedition, dated 27th July last, we have the pleasing intelligence that the experiment under Col. Chesney has been quite successful; the matter upon which they have been engaged is entirely accomplished, and that with perhaps less loss or annoyance than, considering the route to be taken, and the people with whom they must necessarily come in collision, could have been anticipated.

The commander of the expedition had with him two steam boats in frame, to be put together upon the Euphrates, and to be propelled thence to the mouth of the river. One of these, the Tigris, has unfortunately been wrecked; it is expected, however, that she can be recovered and repaired. The other, the Euphrates, has arrived at Bassorah, and has communicated with the ships of the East India Company. There can therefore now be no longer a doubt of the practicability, nor of course of the important advantages of this mode of communication with India. For some time, until affairs can be put in a proper train, there may be, as there have been, trifling annoyances from certain marauders who infest the districts to be crossed; but the advantages to these districts also are so great and so manifest, that the arbitrary governments will, for their own sake, facilitate the endeavors of the British to make this a good travelling route.

It is to be regretted that certain persons at home have been too lukewarm in the prosecution of this valuable attempt, and that sufficient justice has not been done to the scientific suggestions of that accomplished officer, Col. Chesney, whose peculiar difficulties as the commander of the expedition would have damped the ardor of almost any other man.

That the objects of this undertaking are fully attained is manifest, from the fact that a mail which left Falmouth on the 4th June last, reached Bombay on the 18th July, a period of only forty-four days. India and Europe are therefore brought together as it were, and the British nation have the boast—a proud boast—of opening the way to the removal of prejudices and habits that are known to be of at least three thousand years existence. The influence of commerce on society, is as that of the constant dropping of water upon a stone, not any individual application marks its effects, yet they are not the less sure nor effectual. India has been the same from the time of the Egyptian conqueror, to the present hour, but whilst arms in vain try their force to change the nature and habits of mankind, commerce is the universal solvent which amalgamates all the people of the world into civilization.

What the effects may be upon British commerce with India, it is impossible to foresee. Visions of wealth start up at every point, as well as security to persons and property; the long and tedious voyage, replete with dangers, by the way of the Cape of Good Hope, will presently be abandoned by the traveller; light and valuable cargoes will come by the short route, and he will be enabled to attend to the more massy ones by his previous arrival at the port of his destination.—*New York Albion.*

GENIUS VS. LABOR.

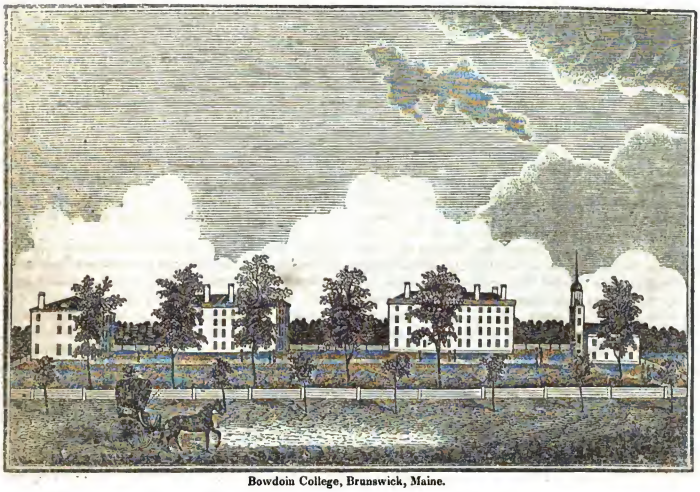
'Of what use is all your studying and your books?' said an honest farmer to an ingenious artist. 'They don't make the corn grow, nor produce vegetables for the market. My Sam does more good with his plough in one month, than you can do with your books and papers in one year.'

'What plough does your son use?' said the artist, quietly.

'Why he uses ———'s plough, to be sure. I can do nothing with any other. By using this plough we save half the labor, and raise three times as much as we did with the old wooden concern.'

The artist, quietly again turned over one of his sheets, and showed the farmer a drawing of the lauded plough, saying, 'I am the inventor of your favorite plough, and my name is———.'

The astonished farmer shook the artist heartily by the hand, and invited him to call at the farm-house and make it his home as long as he liked.



Bowdoin College, Brunswick, Maine.

BOWDOIN COLLEGE.

The accompanying sketch gives a correct view of the principal buildings of Bowdoin College, viz. the Chapel, two brick buildings, 100 feet by 42, occupied by the students; and another of the same material, fifty feet by forty, containing the Mineralogical Cabinet, Gallery of Paintings, Medical Cabinet and Library, and Lecture rooms. The Chapel is of wood, two stories in height, the upper story being occupied by the College Library. The more southerly of the two central buildings, besides rooms for the students, contains recitation rooms, and spacious rooms for the libraries of two societies. This has been erected during the last year, the former edifice having been consumed by fire in February, 1836. It is proposed to erect, as soon as the funds of the college will permit, an additional building, on a line with the two now standing, and corresponding with them in size and appearance and also a new Chapel. The three story brick building is called Massachusetts Hall, the large south building Maine Hall, the other is at present called North College.

After several petitions to the legislature of Massachusetts for the incorporation of a college in the District of Maine, a bill was introduced in the winter of 1791 establishing in that District a college, to be called Bowdoin, in honor of the distinguished governor of that name. This bill, however, was not enacted till 1794, Brunswick meanwhile having been selected as the seat of the college. By this act, a Board of Trustees, consisting of thirteen members, and a Board of Overseers of forty-five members, were appointed for the regulation of the Institution; and by the same act, a grant was made to it of five townships of wild land, in the interior of Maine. Immediately after its establishment, Hon. James Bowdoin, son of Gov. Bowdoin, made to it the generous donation of 1000 acres of land, and more than 1100 pounds in money.

Thus endowed, the first business of the Boards was the erection of a building. A meeting was accordingly held at Brunswick, in 1796, for the selection of a suitable location. This town is situated upon a sandy plain, bounded on the north by the Androscoggin river. Nearly a mile south of the river is a slight elevation of the plane, and this was selected as the most desirable site for the college. Although there is a sameness in the scenery of Brunswick, owing to the almost uninterrupted level of the ground, and also to the unvaried dark green of the pines and firs, which encircle it, yet it is a delightful village, and peculiarly fitted, by its quiet and retirement, for the seat of a literary institution. A brick building was shortly commenced, which received and retains the name of Massachusetts Hall.

In July, 1801, the Boards assembled for the election of a president. The Rev. Joseph Mc'Keen of Beverly, Mass., was chosen, and inducted into office on the 2d of September. At the same time, Mr. John Abbot, who had been appointed professor of languages, was installed. The services of this memorable day were performed on a stage, erected under a beautiful grove of evergreens, near the college. At this time eight students were admitted to the institution.

The president and his one assistant were joined, in 1804, by Mr. Samuel Willard, tutor; and the year following Mr. Parker Cleaveland was installed

professor of mathematics and natural philosophy, toward the formation of which professorship, Mr. Bowdoin had given 1000 acres of land. The same year a wooden chapel was built, which was repaired in 1817, and is still in use. In 1806 was the first commencement, at which seven young men received the honors of the institution. The first name on the catalogue of graduates is that of Richard Cobb, Esq. of Boston. This first was also the only commencement at which President Mc'Keen was permitted to preside, for his faithful and valuable labors were closed by his death, in July of the following year. One of the present officers of the college remarks concerning him, 'his sound, discriminating judgment, his cool decision, his equable spirit, his manners conciliating, and at the same time dignified, his kind feelings, his moral excellence, his reputation as a minister of the gospel, and the full possession of public confidence, combined with his love of science, fitted him in a high degree for the office he was called in providence to fill. His assiduity, sustained as it was, by the co-operation of his colleagues in office, and the success with which a kind providence crowned his labors, may be inferred from the fact, that when he was removed, forty-four students had been received into the institution; the library contained between 1400 and 1500 volumes, for the most part collected by private donations, and a philosophical and chemical apparatus had been procured, exceeded perhaps, at that time, by none in New-England, except that in Harvard University.'*

The following September, the Rev. Jesse Appleton, then minister in Hampton, N. H. was elected to the presidency of the college, and one better fitted for that responsible situation by energy, dignity, and true Christian excellence of character, could not have been found.

The death of Hon. James Bowdoin, in 1811, was the next important event in the history of the college, of which he had ever been the beneficent patron. He bequeathed to it a collection of minerals, and 400 fine crystallographic models, purchased in Europe; some philosophical apparatus; his elegant library of 2000 volumes; seventy costly paintings; and a large number of charts, maps, and engravings.

Under the administration of President Appleton, the college continued to prosper; new grants of land were made to it by the legislature of Massachusetts; and, in 1812, it was thought desirable to add a professor of languages to the number of instructers. To this the Rev. William Jenks of Bath, now Dr. Jenks of Boston, was appointed, and in 1813 was installed. Although efforts were made to render his valuable services permanent, his connection with the college ceased at the expiration of three years.

The death of President Appleton, in November, 1819, was a heavy blow to the institution, over which he had presided with untiring and parental watchfulness. In so short a sketch, as the present, it would be inappropriate to enter into a full eulogium of the character of this distinguished man, or to point out all those mental, moral, and Christian excellences, which so peculiarly fitted him for the charge of a collegiate institution. Although his labors have ceased from the earth, there are many still living, who cherish his memory with the liveliest affection and gratitude.

At a meeting of the Boards, the following December, Rev. William Allen, of Hanover, N. H. was very unanimously elected president. He was inducted into office in May, 1820, as was also Mr. Samuel Newman, who had been appointed to the professorship of the Greek and Latin languages, which Mr. Abbot had resigned.

On account of the increased number of students, it became necessary, in 1822, to erect a new building for their accommodation. The same year Maine Hall was destroyed by fire, but was soon rebuilt by the liberality of the friends of the college. The number of instructers was found to be insufficient, and in 1824 two new professorships, one of metaphysics and ethics, the other of rhetoric and oratory, were created. To the former of these, Rev. Thomas C. Upham of Rochester, N. H. was appointed, and Professor Samuel S. Newman to the latter. Alpheus S. Packard, tutor, was also appointed professor of languages and classical literature, and in 1825 William Smyth, tutor, was chosen professor of mathematics. One thousand dollars had been bequeathed by Mrs. Dearborn, the widow of Hon. James Bowdoin, towards the formation of a professorship of modern languages, and in 1829 Henry W. Longfellow was appointed to this office. In 1835 he was elected professor of the same department in Harvard University, and Daniel R. Goodwin was appointed his successor.

In March, 1831, the legislature of Maine passed an 'act respecting colleges,' by which it was provided, that 'no person, then holding the office of president in any college in the State, should hold such office beyond the day of the next commencement of the college, unless he should be re-elected; and that no person should be elected or re-elected, unless he should receive in each Board two thirds of all the votes given; and that any person elected should be liable to be removed at the pleasure of the Board or Boards which should elect him.' The design of this extraordinary act, it was understood, was to remove the president of Bowdoin College, and to prevent his re-election; the legislators not wishing for any religious influence in the head of the college. In order to test the constitutionality of this act, President Allen instituted a suit in the Circuit court of the United States. The question was argued before Judge Story, who, in 1833, announced his decision, pronouncing the act unconstitutional and void. In his 'opinion' he declared, that the president was in office under a lawful contract, made with the Boards, by which contract he was to hold his office during good behavior; which contract was impaired by the act, in violation of the Constitution of the United States. 'The president, holding his office during good behavior, could not be removed from office, except for gross misbehavior, and then only by the Boards, in the manner pointed out in the original charter.' In this decision the Boards of Trustees and Overseers acquiesced.

* Quarterly Register of November, 1835.

At the suggestion of the president, the Boards petitioned the legislature to establish a Medical School, which was created and endowed in 1820, by an act of the legislature, and is under the direction of the Boards of Trustees and Overseers. Since the establishment of this school, which is called the Medical School of Maine, it has graduated about 360 pupils. Its present number of Lecturers is four, and of students nearly 100. Its library contains about 3000 volumes, and many costly and elegant plates, and is unsurpassed in value by any other in the country. The anatomical cabinet formerly belonged to the late Dr. Thillaye of Paris, and is ample and valuable; and the acquirements and abilities of its professors have given them a high rank in the estimation of the public.

The college library contains about 9000 volumes, partly the gift of the Bowdoin family, and other beneficent individuals, particularly Rev. John A. Vaughan, N. Johnson, and Thomas Walcott, Esqs: and the remainder are valuable works, selected by the officers. The Peucinean Society has a valuable library of about 3500 volumes. That of the Athenæan Society was nearly as large, but was almost entirely destroyed in the burning of Maine Hall, in February, 1836. The members of the Society, however, have made great exertions to replace it, and the library room, in the new building, will probably, in a few years, contain as large and as valuable a collection of books as the former. The Theological Society has also a small library of 800 volumes.

The collection of paintings belonging to the college is very fine, and the mineralogical cabinet very beautiful and extensive, chiefly collected by the efforts of the distinguished professor of that department.

The officers of instruction and government are the president, a professor of chemistry, mineralogy, and natural philosophy; a professor of rhetoric and oratory, who is also a lecturer on civil polity and political economy; and professors, severally, of languages and classical literature; of the theory and practice of medicine; of obstetrics; of anatomy and surgery; of metaphysics and ethics; of mathematics and of the modern languages; and during the absence of the latter in Europe, a tutor of the modern languages; and a librarian.

The present number of undergraduates, is 138. The total number of alumni is 533. Of these, upwards of seventy have entered the ministry. About twenty have been appointed presidents and professors of literary institutions, of which number are president Lord, of Dartmouth College; president Hall, of Geneva College; professor Stowe, of Lane Seminary; professor Longfellow, of Harvard University; professors Packard, Smyth, Mc'Keen, and Goodwin, of Bowdoin College; professor Cobb, of Ohio College; and the late professor Lincoln, of the University of Vermont. Among the distinguished laymen, who have graduated at this institution, may be mentioned Mr. Charles S. Daveis, Hon. Robert S. Dunlap, Hon. George Evans, Hon. Nathaniel Groton, Hon. Alfred Johnson, Hon. Josiah Pierce, and Hon. Franklin Pierce. Among the graduates of literary distinction, are Messrs Abbot, Rev. George B. Cheever, H. W. Longfellow, Isaac Mc'Lellan, Jr. Frederic Mellen, B. B. Thatcher, and Rev. T. T. Stone. Rev. Harrison Allen, Rev. Samuel Munson, and Dr. Asa Dodge, deceased missionaries, were also graduates of this college.

'In nothing,' remarks a distinguished son of Bowdoin,* 'has the success of this Seminary of instruction been more conspicuous, than in the large proportionate number of able and accomplished teachers, that it has prepared and qualified for other high literary establishments, in the rising tone and standard of scholarship, which it has sustained, and in its active contributions to the cause of useful and essential learning; and not less in the promotion of vital, expansive, and comprehensive piety. The waste places of India have witnessed the adventurous and glowing devotion of those sons of Bowdoin, who have joined in carrying the cross back to the original, extremest east; while at home, the same translucent image of our faith and hope, beams abroad among the silent or the active spirits of our society, from the evangelical pages of our Abbots.'

AMERICAN ANTIQUITY.

An interesting discovery of what appears to be the ruins of an ancient city, was recently made on the western bank of Crawfish river, one of the forks of Rock river, in Wisconsin territory. The Chicago American of the 17th of December, contains a diagram or plan of the ruins, with a brief description. The whole work consists of an inner wall of retangular shape, being about twelve feet thick at the base, and although crumbled down, still left about five feet high all round, supported by buttresses every five rods; and enclosing three large buildings, and about fifty others of smaller size. Without this wall, which may be called the citadel of the ancient city, the ruins of another, both made of well burnt brick, was discovered, but not represented in the sketch, which appeared to be about three miles square. In the three angles of the inner wall there exist remains of large mounds, one of which in the southwest angle is now left about fifteen feet high. The site of the ruins is covered with forests of large growth, some of the trees being upwards of two feet in diameter. Compared to other ruins found in various parts of the western country, (New York, Ohio and Missouri.) it is essentially unlike them in respect to the material of its construction, which in almost every other discovery, has been found of earth, generally thrown up in circular form. This, on the contrary, is brick masonry of a rectangular shape. It corresponds, however, in being alike remote from navigable streams, which it is believed is universally the case with all the ruins hitherto found. The name 'Aztalan' has been applied to the ruins, from an idea prevalent in some parts of Mexico, that there was, in ancient times a city of that name, in the northern parts of North America.

Manufacture of cotton.—The manufacture of cotton cloth, was introduced into England about the middle of the seventeenth century, but made no extraordinary progress for 100 years afterwards.

* Char' s S. Daveis, Esq.

Interior of a modern Indian wigwam, with papooses, tied up to be carried on the shoulders.

BOOK OF THE INDIANS OF NORTH AMERICA.

A book recently published by Mr. Drake, containing historical and biographical notices of the Indians of North America, is the seventh edition of a work published by him under this title. It is a volume of six hundred pages, large octavo, in small type, containing condensed historical accounts of the several tribes of Indians, who have made themselves conspicuous on this continent; and biographical notices of individual Indians, who, by their abilities in war, or by any other means, have made themselves of sufficient importance to gain a place in history. It is also embellished and its value considerably increased, by several fine, and a large number of wood engravings, illustrating the customs of tribes, and shewing the features of noted chiefs. The work is a compilation of the most remarkable facts which the author has been able to collect in a long course of investigation, aided by facilities for obtaining information, such as few possess. The destruction of the plates of the work by fire in 1835, was a loss to the author, but the public have thereby been benefited by the revision of the whole work. The historical account of the Indians which yet remains within the reach of the most scrutinizing research, is well known to be but a slight sketch of their struggle with the more successful whites for the possession of the country, or in some cases, for the privilege of standing on the earth, and of breathing the air, which is free for all that live. But if it be desired by any one to find a faithful and *true* compendium of Indian history, yet accessible, we are persuaded he will do well to examine this book.

Whether the natives of the American forest have been treated with the kindness and benevolence, or with the justice which should have been expected from the enlightened nations of Europe, and their descendants, is a question which we have no inclination to discuss at this time.

Mr. Drake has given a tabular list of tribes with their present numbers, as nearly as can be ascertained, and their places of residence. This list consists of one hundred and ninety-five names, many of them were once powerful. It is melancholy to think how much the original inhabitants of this country have been wasted, and how fast they are still wasting away. Bryant's description, which Mr. Drake has adopted for a motto, is literally true.

> 'They waste us; ay, like April snow,
> In the warm noon we shrink away;
> And fast they follow as we go
> Toward the setting day,
> Till they shall fill the land; and we
> Are driven into the western sea.'

Little more than two centuries have passed away since the red man held undisputed possession of the whole country now occupied by the United States. He has already disappeared from our north Atlantic shores, and is fast receding from our southern and western borders. Though formerly he held dominion over the unbroken forests, the extended rivers, and the broad lakes of this whole continent, and dreamed not of a superior, he has now departed. The crafty hunters and the mighty chiefs of war are no longer found upon the hills or near the streams, where their ancestors of unnumbered generations spent their lives, and found a resting-place in death. We are highly gratified to find a man willing to exert himself, like our author, to snatch from oblivion the few traces which yet remain of Indian history. With respect to every individual of the various tribes, who died before the settlement of the whites, we may say,

> 'The records of the human race,
> Their annals since the world began,
> Of him afford no other trace,
> Than this——*There lived a man.*'

Could one of their ancient sachems be permitted to revisit the scene of his earthly labors, and inquire for the descendants of his tribe, he would find none to answer his inquiries. The face of the land is covered by a different race of men, and most of the tribes, which have not yet become extinct, are diminished and brought low. A few remnants 'scat-

tered and peeled,' seek are sting-place in the wilderness of the west, but hitherto they have not found it.

We are gratified to know that our author is continuing his researches and collections. They already amount to far more than the public will be willing to pay him for publishing, but he will doubtless make a judicious disposition of the materials of his labors, and the public will be benefited by them *when they require it.*

We are indebted to Mr. Drake's work for Red Jacket's speech and some other articles.

The Rhinoceros Hornbill. The Secretary Falcon.

THE RHINOCEROS HORNBILL.

Birds of this tribe have all singularly disproportioned bills. They are bent, and jagged at the edges, and in the species of which our picture gives a representation, and perhaps some others, the upper mandible has a protuberance resembling another bill.

The rhinoceros hornbill is found in the island of Sumatra and several other places in the east. The protuberance of the beak is so large and so much recurved, as to appear to be rather a monstrous deformity, than a natural production. The bird is somewhat smaller than a turkey, and of a black color, except the tail, which is white and marked with a bar of black. The beak is nearly a foot long, and of a pale yellow color. The birds are said to follow hunters, for the sake of feeding on the entrails of game that are killed. It is also said that they chase rats and mice, and after taking them and pressing them flat with their bills, in a peculiar manner, they toss them up into the air, and swallow them whole immediately on their descent.

THE SECRETARY FALCON.

This bird in its general form resembles, in some degree, both the eagle and the crane, having its head shaped like that of the former, and its body somewhat like that of the latter. From the back of the head spring several long dark colored feathers, that hang loose behind like a pendant crest, which the bird can raise or depress at pleasure. 'The Dutch,' (says M. Le Vaillant,) gave to it the name of the *secretary*, on account of the bunch of quills behind its head; for, in Holland, when clerks are interrupted in their writing, they stick the pen in their hair, behind their right ear, and to this the tuft on the head of the bird was thought to bear some resemblance.

The Hottentots, at the Cape of Good Hope, distinguish this bird by a name which signifies the *serpent eater*, and it would almost seem that nature had principally designed it for the purpose of keeping within due bounds the race of serpents which are very numerous in all the countries which this bird inhabits.

The mode in which it attacks these dangerous creatures is very peculiar. When it approaches them it is always very careful to carry the point of one of its wings forward in order to parry off their venomous bites; sometimes it finds an opportunity of spurning and treading upon its antagonist, or else of taking him on his pinions and throwing him into the air. When by this proceeding it has at length wearied him out, and rendered him almost senseless, it kills and swallows him at leisure without danger.

Dr. Solander says that one of these birds will take up a snake, a small tortoise, or other reptile, and dash it with so much violence against the ground that the creature will immediately die; but if this does not happen, the operation will be repeated till the victim is dead.

The secretary is easily tamed, and when domesticated will eat any kind of food, either dressed or raw. If well fed, it will live peaceably with poultry, and when it sees any of them quarrelling, will separate the combatants and restore order.

This bird when standing erect, measures about three feet from the top of the head to the ground. The bill is black, sharp, and crooked like that of an eagle. The general color of the plumage is a bluish ash-color. The ends of the wings, the thighs, and vent are black. The tail is somewhat ash-colored except at the end, which for above an inch is black, and then tipped with white.

The secretary falcons make with twigs a flat nest, and line it with wool and feathers. This is usually formed in some high tuft of trees; and is often so well concealed as not easily to be discovered even by the most scrutinizing eye. They commonly lay two or three white eggs nearly as large as those of a goose. The young remain a long time on the nest, because their legs being long and slender, they cannot easily support themselves.

It is a very singular circumstance that, in their contests, these birds always strike forward with their legs, and not, like all others, backward. This bird is a native of the interior of Africa, Asia, and the Philippine islands.

Steam coach for common roads.—Our countryman, Dr. Church, has at length completely and satisfactorily accomplished the construction of a steam carriage, in every way suited to run on ordinary roads.

Tenants of the upper air.—The snow-hunting (*Emberiza nivalis.*) is the only living thing that is found at the height of two thousand feet above the region of perpetual snow.

FIRST MONIES RAISED BY THE UNITED STATES.

We presume our readers will find something of interest in perusing an account of the first measures of the congress of the united colonies, now the United States, for raising and appropriating money. Though there are now in the treasury tens of millions which it is difficult to dispose of, at that time the whole country depended upon credit, and the public men talked of thousands only, where now they speak of millions.

When the delegates from the several colonies and provinces in North America met in Philadelphia, on the 5th of September, 1774, to consult, in the language of the resolution adopted by Massachusetts, 'upon the state of the colonies, and the miseries to which they then were, or must soon be reduced, by the certain operations of certain acts of parliament respecting America, and to deliberate and determine upon wise and proper measures to be by them recommended to the colonies, for the recovery and establishment of their just rights and liberties, civil and religious, and for the restoration of union and harmony between Great Britain and the colonies, most ardently desired by all good men.' It had not been anticipated that a nation soon to become independent, prosperous and powerful, was then commencing a struggle for existence. The necessity of funds for national purposes was consequently not foreseen. The delegates expected to be paid by the colonies and provinces which appointed them, but this was all the expense which was expected to result from the meeting of the congress. Nothing appears to have been done publicly for the purpose of raising an army, and funds to support them, till the spring of 1775.

A second general American congress assembled at Philadelphia on the tenth of May, 1775. The powers of this assembly were generally more full than had been granted to the members of the first congress. The former were empowered to consult, and recommend measures, while the latter were more generally authorised to concert, agree to, and effectually prosecute such measures as in the opinion of the congress should be most likely to obtain a redress of American grievances. Such was nearly the language of South Carolina. Some of the other States were less explicit but the general intention appears to have been the same.

Mr. Hancock laid before this body a letter from the provincial congress of Massachusetts in which they state the measures they had themselves adopted to support the cause of America.

'The sanguinary zeal of the ministerial army,' say they, 'to ruin and destroy the inhabitants of this colony, in the opinion of this congress, hath rendered the establishment of an army indispensably necessary; we have accordingly passed a unanimous resolve for 13,600 men to be forthwith raised by this colony; and proposals are made by us to the congress of New Hampshire, and governments of Rhode Island and Connecticut colonies for furnishing men in the same proportion.' After stating the exigency which compelled them to take this course, without waiting for the advice of the general congress, and their opinion 'that a powerful army on the side of America was the only means left to stem the rapid progress of a tyrannical ministry,' they add,

'We also enclose several resolves for empowering and directing our receiver-general to borrow the sum of one hundred thousand pounds, lawful money, and to issue his note for the same; it being the only measures which we could have recourse to for supporting our forces, and we request your assistance in rendering our measures effectual, by giving our notes a currency through the continent.'

On the twenty-sixth of May, congress in consideration of hostilities actually commenced in Massachusetts, and reinforcements of British troops expected, resolved that 'for the express purpose of securing and defending these colonies, and preserving them in safety against all attempts to carry the oppressive acts of parliament into execution, by force of arms, these colonies be immediately put in a state of defence.'

On the twenty-seventh of May, it was, on motion, 'Agreed, that Mr. Washington, Mr. Schuyler, Mr. Mifflin, Mr. Deane, Mr. Morris, and Mr. S. Adams, be a committee to consider on ways and means to supply these colonies with ammunition and military stores.'

This committee reported on the first of June, and the report was referred to a committee of the whole. A large portion of the month of June was employed by congress in the consideration of questions of a general nature, which were debated in a committee of the whole, and in the organization of the army.

On the twenty-third of June, a resolution was passed to emit bills of credit to the amount of two million dollars, in the following form.

CONTINENTAL CURRENCY.

No. 1.

This bill entitles the bearer to receive—Spanish milled dollars, or the value thereof in gold or silver, according to the resolutions of Congress, held at Philadelphia on the tenth of May, A. D. 1775.

The number of bills was to be forty-nine thousand, of each of the denomination of one, two, and three dollars, to eight, inclusive, and 11,800 of twenty dollars each; and a committee was appointed to superintend the printing.

On the twenty-fifth of July, a resolution passed for raising a million dollars in bills of credit, of the denomination of thirty dollars. Twenty three gentlemen were appointed to number and sign the bills to be issued, each of which was to bear two signatures. The bills after being numbered and signed, were to be delivered to the two continental treasurers, which it seems congress had determined to appoint.

On the twenty-seventh of July, congress established the medical department in the army, as follows

	Pay per diem.
One director-general, and chief physician	$4.
Four surgeons, each	1,33⅓
One apothecary	1,33⅓
Twenty surgeons' mates, and one clerk .	66⅔
Two store-keepers, at four dollars a month,	
One nurse to every ten sick, at two dollars a month.	

On the twenty-ninth of July congress fixed the pay of the officers of the army as follows.

	Pay per month.
Commissary-general of musters	$ 40
Deputy commissary-general of stores and provisions	60
Deputy adjutant-general	50
Deputy muster-master-general	40
Brigade major	33
Commissary of artillery	30
Judge advocate	20
Colonel	50
Lieutenant colonel	40
Major	33⅓
Captain	20
Lieutenant	13
Ensign	10
Sergeant	8
Corporal, drummer, and fifers, each	7½
Private	6⅔
Adjutant	18½
Quarter master	18½
Chaplain	20
In the Light Infantry the same.	
In the Artillery,	
Captain	26⅔
Captain Lieutenant	20
Two Lieutenants	18½
Lieutenant fire-worker	13½
Sergeant	8
Corporal	7
Bombardier	7
Matross	6 5-6

Michael Hillegas and George Clymer were appointed joint treasurers of the United colonies, to reside at Philadelphia, and to give bond to John Hancock, and others, in trust for the United colonies, in the sum of one hundred thousand dollars.

It was also resolved that the provincial assemblies or assemblies of the colonies, choose each a treasurer, and that each colony should provide ways and means to sink its proportion of the bills ordered to be emitted by congress in such a manner as might be most effectual, and best adapted to the condition, circumstances, and equal mode of levying taxes in such colony. It was also determined that the proportion or quota of each colony, should be according to the number of inhabitants in each colony, including the colored part of the population. The number of inhabitants in the several colonies not being known at that time, the following quota was determined on, subject to revision and correction, when a list or census of each colony should be obtained.

New-Hampshire	124,069½
Massachusetts	434,244
Rhode-Island	71,959½
Connecticut	248,139
New-York	248,139
New-Jersey	161,290½
Pennsylvania	372,208½
Delaware	87,219½
Maryland	310,174½
Virginia	496,278
North Carolina	248,139
South Carolina	248,139—$3,000,000.

The payments of these several sums were required to be made in four equal annual instalments, on or before the last day of November, in the years 1779, 1780, 1781, and 1782.

The bills issued by congress were to be received in payment of taxes, which the several provincial assemblies were expected to lay for the purpose of sinking the bills, as the redemption of them by this method was called. The provincial treasurers were to cut out, by a circular punch, a hole in each bill, and cross them to make them uncurrent, leaving, however, the marks of the value still legible, and then transmit them to the continental treasurers, who with the assistance of a committee of congress were to count and burn them.

The general wish to give support to the measures of congress, and the expectation of a speedy termination of the war, and the consequent return of prosperity, by which it was confidently expected that the colonies would be able without difficulty to make provision for *sinking* the bills, rendered this scheme of finance available, when probably scarce any other could have been made effectual.

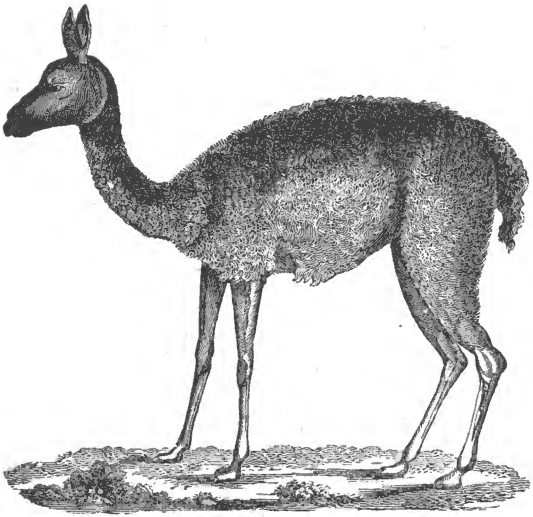
For their services the continental treasurers were to be paid *five hundred* dollars a year. It must be acknowledged there was no great extravagance in the amount of their compensation. One of the first appropriations by congress was of the sum of five hundred dollars for the support of eight or ten young Indians under the instruction of Dr. Wheelock, on Connecticut river, supposed to be at Hanover. The object of this appropriation was to prevent the disaffection among the Indians which it was supposed would follow, if the young men were sent home for want of funds to support them. On the first of August, the following appropriations were made just previous to the adjournment of congress.

Five hundred thousand dollars for the use of the army under General Washington, then in Massachusetts.

General Washington was further authorised, if this sum should be expended before the meeting of the next congress, to draw on the continental treasurers for the further sum of $200,000; $175,000 for the use of the provincial assembly of New York, to discharge the claims of that State for advances made or debts contracted in the public service, in pursuance of the directions of congress.

Fifty thousand dollars for the delegates from Connecticut for similar purposes. One hundred thousand dollars for the paymaster of the army in New York, to be expended under the direction of General Schuyler. If this sum should be expended before the meeting of the next congress, General Schuyler was authorised to draw further on the continental treasurers to the amount of two hundred thousand dollars. Fifteen thousand dollars for the delegates from Pennsylvania to pay for so much previously borrowed of that State, for the public service. Ten thousand dollars to be placed in the hands of the delegates from Pennsylvania for contingent expenses.

After the appointment of Gen. Washington as commander-in-chief, he having refused all compensation, except for his actual expenses, congress resolved to appoint two major-generals under pay at $166 a month.



The Guanaco of South America.

THE GUANACO OF SOUTH AMERICA.

There have been descriptions given of animals under the names of llama (pronounced l-yama, *a* as in father,) vicuña, (veecun-ya,) paco, and guanaco, as so many different species; but some have thought that the effects of domestication have been mistaken for specific differences. Pennant and Cuvier consider the llama as the domesticated guanaco, and the vicuña as the tamed variety of the paco.

Our drawing and description refer to the guanaco. It appears to be a species of camel, and its scientific name is *camelus guanaco*, with thick set woolly hair; an arched back; the hind legs marked on both sides by an acutely eliptical blackish spot; tail pendulous.

The general color of the animal is a russet brown above, and an ash grey, passing into greyish white below. The head is of a fawn-color, which is deepest on the nose. The upper part of the neck, shoulders, and back, have a pale russet brown hue, dashed with a purplish tint, which is most discernible on the shoulders. The lower jaw, chin, throat, belly, and outside of the lower part of the legs, are ash grey, the inside of the legs and the middle of the belly a greyish white. The fur is thickly set on the head, neck, and upper part of the body, it is woolly on the back, flanks, and tail; but its length is not above two inches on any part of the body, except at the extremity of the tail, where it is three inches long. The belly and inside of the upper part of the legs are nearly naked. The hair on the lower part of the limbs is very short and sleek; and the whole coat of the animal is extremely soft.

The upper lip is *bifid*, that is, divided by a slit into two parts, and the slit, or *sulcus*, is moist; these peculiarities become very apparent when the animal is eating. This structure of the upper lip appears to give it a considerable additional power in collecting food.

The sides of both lips appear wrinkled, and their edges thick. The tip of the nose is covered with hair like the rest of the face. The nostrils are oblong. The eyes are of a deep blue, and have a very mild expression, like those of an antelope; they are furnished with long silky black eyelashes, and there are long hairs of the same color in the eyebrows. The face suddenly contracts in breadth below the eyes, though the muzzle is not very acute. The forehead is broad, the ears very long, and often in brisk motion, though generally erect.

The neck is long, slender, and cylindrical, and is generally arched into a graceful curve; and it springs easily from the chest, without showing any abrupt curve. The animal has great command over this part, and can readily turn its head over its rump,

without moving the limbs. The hair on the neck is remarkably woolly and soft, but very short. The arching of the back is very considerable; the shoulder is lower than the rump; the circumference of the loins is slender. The tail is either freely pendulous, or pressed down over the anus, when the animal is afraid of any object. The under side of the tail is provided with long whitish hair, which hangs down below the tip.

The limbs are very slender, like those of the antelope. The hind legs are longer than those before, on account of which the animal in running proceeds by vast bounds. On the fore legs the tawny fur descends below the knee, but on the posterior extremities it does not reach the corresponding joint by three inches. The exterior on the hind legs spot, is larger than the interior, being two inches long, and half an inch broad in the widest part.

The foot of this animal is singularly formed. The division extends up to the first joint of the leg, yet the sole is very flat, and the *sulcus* apparently small when seen from below. The soles of the feet are furnished with *callus*, or a leathery substance, of an elongated form, and slightly rounded at the extremities. The hoofs are very small, and resemble nails or claws, forming triquetrous coverings to the extremities only of each toe, with the acute edge towards the inner and upper part, being quite open below, and projecting beyond the toes in a sharp point. This is the structure of both feet. The habit of the animal resembles that of some of the more slender antelopes. The limbs are long, and convey the idea of great swiftness. Its manners appear gentle; yet when irritated it turns its head round, and, by a forcible expiration, projects its saliva, in small quantities, at the object of its dislike. The Spaniards assert, that the saliva thus projected, has an acrid quality, slightly inflaming the skin where it alights, and producing some itching. When the Guanaco rests, it gathers its legs below its body, bending the knees, so as to fold the fore-legs directly under the breast, and reclines on the centre of its breast and abdomen.

These animals readily feed on hay, from which they select the moister portions. The Guanaco seems fond of apples, but will not eat cabbage. They are easily tamed, and seem to love being caressed by those who approach them, and will smell of their hands and clothes; but are impatient when their mouths or ears are handled. They occasionally utter a faint sound or groan when much teased, and usually accompany this with a hissing noise, and an ejaculation of saliva.

The following are some of the dimensions of one of these animals, taken from a specimen imported into Liverpool.

	Feet.	Inches
Length from the tip of the tail to the end of the nose, along the curvature of the back and neck	5	5
Height at the shoulder	2	11
" at the haunch	3	2
Circumference of the body at the widest part	3	4
Length of the head		11½
" of the ears		5
" of the neck	2	
Length of the cleft in the upper lip . . .		1
" of the callus of the fore-feet . .		3½
" of the hoof of the same . .		1
Circumference of the neck	1	

We find the following imitation of Burns's *Auld Lang Syne*, in the Mercantile Journal. We think the author need hardly ask to be more successful. If he will tune his harp again to as good a purpose, we shall be gratified to be the first to send his effusion east, west, north and south, as far as possible.

THE TEMPERANCE LANG-SYNE
OR
THE REMEMBRANCE OF EARLY LIFE.

Oh no! they shall not be forgot—
Those days of simple truth;
The harmless sports and noisy joys,
Of boyhood and of youth.

CHORUS

But when upon those early scenes
We suffer thought to dwell,
We'll drink unto their memory from
The pure, deep well.

We wander o'er each scene anew,
We tread each hallowed spot,
When time in giddy gladness flew—
Oh! can they be forgot?

But when, &c.

Roll back, roll back the tide of cares,
Roll back the swelling sea;
An hour we'll give to think upon
Our days of youthful glee

But when, &c.

But ah! those cheerful scenes are gone,
Their joys fled fast away;
The friends of our bright boyhood's morn—
Oh tell us, where are they?

But when, &c.

Bereaved yet bowing to our lot
Our onward path we tread,
As, mournfully, we gather up
The mantles of the dead.

But when, &c.

The places where our youth was spent,
The friends that now are not,
The scenes we loved, the joyous hours—
They shall not be forgot.

But when, &c.

INGENUITY OF RATS, WEASELS, &c.

The circumstance that rats, weasels, and pole-cats should be able to remove eggs without breaking them, to considerable distances, and to places not easy of access, has always been a matter of wonder; the fact, however, cannot be doubted.

Mr. Jesse informs us, that a laborer, in taking down some tables and other things, used in making bricks from the top of an old brick clamp, where they had been stowed away and covered with straw, disturbed a couple of pole-cats which had taken possession of this asylum; they were both killed, and in their retreat he discovered a quantity of the eggs of geese, ducks and hens, and also plovers, all whole; all these the animals must them-

selves have carried to the top of the clamp, to the height of about twelve feet.

The captain of a merchantman, trading to the port of Boston, in Lincolnshire, in England, had often missed eggs from his sea stock; he suspected that he was robbed by his crew, but not being able to discover the thief, he determined to watch his store-room. Accordingly, having laid in a fresh stock of eggs, he secreted himself at night in a situation that commanded a view of his eggs. To his great astonishment, he saw a number of rats approach; they formed a line from his egg-baskets to their hole and handed the eggs from one to another in their fore-paws. It is well known among farmers that eggs are often removed by rats, by some means, without breaking them.

CHINESE MARRIAGES.

The most essential circumstance in a respectable family alliance is, that there should be equality of rank and station on either side, or that the 'gates should correspond,' as the Chinese express it. The marriage is preceded by a negociation called *ping*, conducted by agents or go-betweens, selected by the parents. The aid of judicial astrology is now called in, and the horoscopes of the two parties compared, under the title of the 'eight characters,' which express the year, month, day, and hour of the nativities of the intended couple. This being settled, presents are sent by the bridegroom in ratification of the union; but the bride in ordinary cases brings neither presents nor dower to her husband. The choice of a lucky day is considered of such importance, that if the Calendar (in which all these matters are noticed with the science of a Partridge, Moore, or Sidrophel himself) should be unfavorable in its auguries, the ceremony is postponed for months. These superstitions are common to all times and countries. In the Iphigenia at Aulis, one of the plays of Euripides, we have an exact case in point. Clytemnestra says to her husband, who is deceiving her about their daughter, 'On what day shall our child wed?' to which he replies, 'When the orb of a fortunate moon shall arrive.'

The most appropriate and felicitous time for marriage is considered to be in spring, and the first moon of the Chinese year (February) is preferred. It is in this month that the peach-tree blossoms in China, and hence there are constant allusions to it in connexion with marriage. These verses, from the elegant pen of Sir Walter Jones, are a paraphrase of a literal translation which that indefatigable scholar obtained of a passage in the Chinese 'Book of Odes.'

> 'Sweet child of spring, the garden's queen,
> Yon peach-tree charms the roving sight—
> Its fragrant leaves how richly green,
> Its blossoms how divinely bright!
>
> 'So softly shines the beauteous bride,
> By love and conscious virtue led,
> O'er her new mansion to preside,
> And placid joys around her spread.'

Some time previous to the day fixed, the bridegroom is invested ceremoniously with a dress cap or bonnet, and takes an additional name. The bride, at the same time, whose hair until this hung down in long tresses, has it turned up in the manner of married women, and fastened with bodkins. When the wedding-day arrives, the friends of the bridegroom send him presents in the morning, with their congratulations. Among the presents are live geese, which are emblematical of the concord of the married state, and some of these birds are carried in the procession. The bride's relations likewise send her gifts, consisting chiefly of female finery; and her young sisters and friends of her own sex come and weep with her, until it is time to leave the house of her parents. At length, when the evening arrives, and the stars just begin to be visible, the bridegroom comes with an ornamented sedan, and a cavalcade of lanterns, music, &c. to fetch home his spouse. On their reaching his residence, the bride is carried into the house in the arms of the matrons who act as her friends, and lifted over a pan of charcoal at the door; the meaning of which ceremony is not clear, but which may have reference to the commencement of her household duties. She soon after issues from the bridal chamber with her attendants into the great hall, bearing the prepared Areca, or betel-nut, and invites the guests there assembled to partake of it. Having gone through some ceremonies in company with the bridegroom, she is led back to her chamber, where she is unveiled by her future husband. A table is then spread, and the cup of alliance is drunk together by the young couple. Some fortunate matron, the mother of many children, then enters and pronounces a benediction, as well as going through the form of laying the nuptial bed. Meanwhile the party of friends in the hall make merry, and when the bridegroom joins them they either ply him with wine, or not, according to the character and grade of the company. When the hour of retirement arrives, they escort him to the door of the chamber in a body, and then disperse.

On the following day the new couple come forth to the great hall, where they adore the household gods, and pay their respects to their parents and nearest relations. They then return to their chamber, where they receive the visits of their young friends; and the whole of the first month is devoted in like manner to leisure and amusement. On the third day after the wedding, the bride proceeds in an ornamental sedan to visit her parents; and at length, when the month is expired, the bride's friends send her a particular kind of head-dress; an entertainment is partaken of by the relations of both parties, and the marriage ceremonies are thereby concluded.—*Davis' China.*

FIDELITY OF THE DOG.

The dog seems to have been the only creature in which the fear and dread of man has not been implanted. In fact, in all our vicissitudes and misery, in sickness, in poverty, in distress, and even in death, forsaken by friends, frowned upon by the world, and wandering an outcast over the face of the earth, this poor animal clings to us through all.

COMETS.

Comets were long beheld by the wondering multitude with superstitious awe, from a supposition of their being the harbingers of evil. Reasoning from principles assumed without foundation, men at length regarded them, not only as the messengers of the displeasure of the gods, but as the cause of political convulsions. All human affairs were supposed to be under the control of celestial influences, and it is not strange that comets were invested with an uncommon degree of malignity. There is strong historical evidence to prove that the art of astrology, by which it was pretended that the fortunes of individuals might be foretold from the aspect of the stars, were practised among the earliest nations, and was disseminated among succeeding generations. Not only was it used in the temples and oracles of the Greeks and Romans, but also in Assyria, Babylonia, Hindostan, and Egypt.

The prophet Isaiah, in one of his prophetical apostrophes, addressed to the city of Babylon, alludes expressly to the practice of astrology. 'Thou art wearied,' says he, 'in the multitude of thy counsels. Let now the astrologers, the star-gazers, the monthly prognosticators, stand up and save thee from these things that shall come upon thee.'

This practice gave the priesthood an enslaving influence over the public mind, and having led to the establishment of sanguinary superstitions, was probably one of the means of the establishment of idolatry throughout the pagan world. In the times of the ancient Israelites, one form of idolatry was the worship of the host of heaven, and another, that of the queen of heaven; meaning by the former, the stars, and by the latter, the moon.

With this, was doubtless connected a pervading and almost universal belief in the influence of the stars upon the moral character, the intellectual powers, and the individual fortunes of mankind. And how much more portentous was a comet than a common star? The cylinders found in the ruins of Babylon, Nineveh, and other ancient cities, are generally acknowledged to be horoscopical devices employed by individuals as signets, containing the engraved representation of the planets which were supposed to have presided at birth. Among the devices borne upon the armor of ancient heroes, the representation of celestial bodies or phenomena, were of the greatest importance; and frequent mention is made of a flaming star, by which probably a comet was intended. When comets were looked upon as judgments from heaven, revealed in flaming fire, it is no wonder that they were regarded with dread. But the discoveries of men of science in modern times have dissipated all these illusions. The movement of these apparently erratic meteors, is found to be subjected to immutable laws, by which their course in the heavens is determined. Whether approaching the sun in their perihelion, with a velocity almost equal to that of the light, or receding to regions where the eye of man cannot reach them, and where the imagination can scarcely follow them, they are still obedient to the laws of gravitation, coming and going at their appointed times, and doubtless fulfilling some wise purpose unknown to us, but known and foreordained by Him, who 'in the beginning created the heavens and the earth.'

The Comet of 1819.

The physical condition of comets is but little better known at the present day, than it was conjectured in former times; but the ancients appear to have differed in opinions respecting them. Some supposed them to be meteors, like the falling stars which are sometimes seen to shoot across the sky and disappear; but Aristotle, Plutarch, and others, class them among the planetary bodies. 'I cannot believe,' says Seneca, 'that a comet is a fire suddenly kindled, but that it ought to be ranked among the eternal works of nature. A comet has its proper place, and is not easily removed from it; it goes its course and is not extinguished, but moves from our view. But will you say if it were a planet it would keep in the zodiac. But who can set one boundary to all the stars? Who can confine the works of divinity to a narrow space? For each of these bodies, which you imagine to be the only ones that have motion, have very different circles; why, therefore, may there not be some that have peculiar motions of their own, by which they are caused to recede from the rest.

The comet of 1480, which, approached the sun within one sixth of his diameter, gave Newton an opportunity to test the truth of his conjecture that such bodies moved in orbits more eliptical than those of the planets, but were governed by similar laws. He found in this case that the orbit was one of so great eccentricity that it could not be distinguished from that of a parabola, having the sun in one of its foci, and, that, as in the case of the planets, the areas described by the vector radius, or the surfaces passed over by a line from the sun to the planet, were proportioned to the times.

Halley applied the principle discovered by Newton, by which the motion of comets in their orbits appeared to be analogous to that of the planet, to the comet which appeared in 1782, and by calculating its elements, identified it as the same which appeared in 1531, and 1607, and predicted that it would appear again in 1759. After this, Clairaut, a French astronomer, having calculated the effect which the planets might be expected to exert upon it, fixed the time of its passing the perihelion at about the middle of April; but it did in fact pass on the 12th of March. This was sufficient to prove the accuracy of the principle. More exact calcula-

tions fixed the time of its next appearance to be in 1835. Several astronomers determined the time of its passing its perihelion to be between the first and the tenth of November.

Its appearance was first noticed on the twenty-third of August, in right ascension five hours, forty-two minutes, twenty seconds; north declination, twenty-three degrees, forty-five minutes, twenty seconds. The place assigned in the nautical almanac was in right ascension five hours, forty-two minutes, fifty-six seconds; north declination, twenty-four degrees, forty-five minutes, three seconds. Its place was again observed after passing its perihelion January 16th, in right ascension, fifteen hours, fifty-nine minutes, forty seconds; south declination, twenty-seven degrees, twenty-two minutes, thirty seconds.

The first recorded appearance of this comet was in 1305, at which time it presented a very splendid appearance. Since that time it has been decreasing in brilliancy, and in the length of its tail at each successive appearance.

It appears by the observations of Professor Joslin, of Schenectady college, that at its last appearance it presented two tails. Neither of them however were very brilliant, and the second one was very faint, and distinguished with difficulty. The difference in the direction of these tails was estimated by him at about 161 degrees. The direction of the principal tail was not precisely opposite to the sun, but declining a little toward that part of the heavens, from which the comet was departing. A comet which appeared in 1744, presented six trains or streams of light, expanded thirty degrees, like the rays of a fan. It has also been noticed in other cases, that the tail was not directly opposite to the sun. This must necessarily be the case if the light were projected opposite to the sun, but should not move instantaneously to the most distant point.

Aristotle states that the tail of the comet that appeared in 371 B. C. extended through a third part of the hemisphere, or sixty degrees; that of 1580, is said to have covered an extent of more than seventy degrees, and that of 1618, 104 degrees.

A very small condensed spot has been observed in the heads of some comets; but the fixed stars may be seen through the densest parts of many. This circumstance seems to indicate that they are not solid bodies, but consist of vapor. From a calculation of probabilities founded on the number which have been observed, it has been thought that there may be fourteen hundred comets which range within the earth's orbit. A hundred and forty have been observed within that distance from the sun, within the last hundred years. Calculations respecting the size of comets show them to be very large; but though they are liable to be deranged in their movements by the planets, it does not appear that they have any appreciable influence on the movement of those bodies. That which appeared in 1770, passed among the satellites of Jupiter, but does not appear to have produced the least alteration in their motions.

HAWAIIAN MEMORIAL.

The following, translated from the Kumu Hawaii, (a newspaper published at the Sandwich Islands in the language of the natives) is a memorial to the king of the Sandwich Islands, made and signed by the principal chiefs and nearly 2,000 of the common people, residing at Honolulu.

Honolulu, November 26, 1835.

To King Kauikeaouli,

We desire to make known this, our urgent request, unto you.

We entreat that you would abolish entirely the traffic in ardent spirits; the establishments for selling rum, and the distilleries of rum; these three things only, we desire of you. It is our opinion that the nation would suffer no detriment, by prohibiting, entirely, these things; for from these evils arise many disturbances, both among natives and foreigners. You well know the drunkenness, the quarrels, the sufferings, and the murders among the natives, and the murders among the foreigners, which has pervaded this land, during your reign, in consequence of rum.

But not only we, your subjects, have seen this evil; certain captains of vessels have also experienced the injurious consequences of these things;* and many native inhabitants and foreigners have been made fast in irons, because of crimes committed under its influences.

Wherefore, we exceedingly desire that these things may be totally removed: not merely on our own accounts, do we suggest the propriety of their removal; it is for your interest, and for the interests of the chiefs, and of the people.

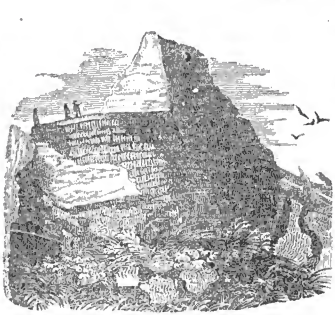
There are many of us who are opposed to these things; wherefore we have subscribed our names to this petition against the traffic in rum, against the distilleries of rum, and against the establishments for selling rum, in these islands.

Let then your assent, to abolish these things, be appended; for, the king well knows, that the request is not made through dissatisfaction or opposition to the people, or foreign residents in your majesty's dominions.

When you shall have received this, please to make known, for our information, your opinion.

Kinau, Kehaunnoa,	*Agents for the King.*
Kekanorohi, Divida, Joane Ji, Keliiahonui, Kokapala,	*King's Secretaries.*
Kekauluohi, Kannina, Aikanaka, Paki, Kuhia, Kuke, Kaholonaa, Parihaole, Kaalu, Apii.	*Counsellors of the Government.*

* A memorial to the king was then in preparation, signed by many sea captains, requesting the abolishment of the stores at Honolulu, for selling ardent spirits.



Shift, or fault, in the round tower of Terranuova, occasioned by the earthquake of 1783.

EARTHQUAKE IN CALABRIA.

Of the numerous earthquakes which have agitated the earth within the last hundred years, that of Calabria, in Italy, in 1783, is almost the only one of which we have accounts, which enable us to appreciate the changes which this cause is capable of producing in the lapse of ages. We refer to it at this time, for the purpose of noticing an alteration of level, by which an edifice was divided and one part left at a greater height than the other.

In the town of Terranuova, some of the houses were seen uplifted above the common level, and others adjoining sunk down into the earth. In several streets the soil appeared thrust up, and abutted against the walls of houses.

A large circular tower of solid masonry, part of which had withstood the general destruction, was divided by a vertical rent, and one side was upraised and the foundations heaved out of the ground. It was compared by the academicians, to a great tooth half extracted from the socket, with the upper part of the fangs exposed. Along the line of this shift, or *fault*, as it would be termed technically by miners, the walls were found to adhere firmly to each other and to fit so well, that the only sign of their having been disunited, was the want of correspondence in the courses of stone on either side of the rent.

PERCUSSION CAPS.

It is well known to many who are accustomed to notice the sports of boys, that the *percussion cap* has, of late years, become one of their common play-things. To produce an explosion, a nail is driven into the hollow part, while the flat surface is held against the brick wall of a building, or some other obstacle of a similar nature. Its loud explosion is frequently heard at the corners of the streets, and in places where boys are in the habit of assembling for amusement. But the danger attending the explosion of this little instrument, in the hands of those who are ignorant of its nature, or careless in its employment, is, unfortunately, almost unknown. This danger arises from the circumstance, that at the instant when the percussion cap explodes, it breaks into a great number of very small pieces, which are scattered in various directions, and each minute portion is thrown with sufficient force to enter any part of the body it may happen to strike. The part most liable to serious injury from this cause, is the eye. When a portion of the cap strikes this organ, it generally penetrates its coats, lodges in the interior, from which it is exceedingly difficult to extract it, and excites an inflammation, which often ends in a total loss of sight. It is reported by physicians that blindness from this cause has of late become a very common accident, not only among boys, but also in adults who, being ignorant of the nature of the percussion cap, are in the habit of using it in the discharge of muskets, unprovided with a lock properly fitted for its reception. A physician in Boston, asserts that he can point to several children in the city, and to many individuals in the country, old and young, who have been rendered hopelessly blind by the careless explosion of a percussion cap, and he remembers only one case of injury from this cause, in which the vision was not destroyed. These accidents of late years have been so frequent, that it becomes the duty of all persons to receive a caution against the careless use of percussion caps; and it is certainly the duty of parents to adopt measures to deter their children from allowing themselves in its now common and dangerous use. Abundant and melancholy experience has shown that in their hands, at least, it is full of danger.

MATHEMATICAL QUESTIONS.

We propose the following questions, for the amusement of such of our friends as have a taste for studies of this nature.

1. If there be two upright cones, ten feet in diameter, with their centres twenty feet apart, each of the same height, having the distance from the apex of each to the outside of the base fifteen feet; it is required to find the length of a line from the apex of one of them, to the nearest point in the base of the other, by the easiest *possible method*, with a demonstration of the rule. Accuracy, perspicuity, and *brevity*, are the qualities which will entitle an answer to a preference over such as may be deficient.

2. It is required to divide a given square, a^2, into three others, which shall be rational, and expressible, analytically, in terms to which singly any value whatever may be assigned, without transcending the limits of the equation.

Reproduction of an Eye. Nearly the whole of the eye of the water-newt, (*lacerta palustris*,) was extirpated, all the humors were evacuated, and four-fifths of the membranes cut away; notwithstanding which, within ten months a perfect new eye was formed, with cornea, pupils, lens, &c.

Value of mamiferous animals. Whole nations are enabled to supply nearly all their most urgent necessities, with a single species of mamiferous animals; the Greenlanders, with the seal; the Laplanders, Sanguses, &c. with the reindeer; the Aleutians, with the whale.

ON THE UTILITY OF LEARNING FRENCH.

Before we set about learning any thing, be it what it may, it is right that we ascertain the thing to be such as is likely to be useful to us; and it is but reasonable that the usefulness should, in point of magnitude, bear a just proportion to the expense, whether of money or of time, demanded by the task which we are going to encounter. The French language is of this character; and very little reflection will convince any one, that it is a branch of learning, which, in the present age, stands, in the scale of importance, next after that of our native tongue.

It would be tedious to enumerate *all* the reasons for learning French; but when it is recollected that the laws of the mother country were, for several centuries, written and administered in French; that some of the present statutes stand in that language, and that a great part of the law terms in use at this day, are also in French, a motive will be found, more, we believe, than sufficient to induce men of education to learn this language.

There are, however, many other motives of equal, and some perhaps, of greater weight. The French language is the language of all the *courts of Europe*. The cause of this is of no consequence; the fact is all we have to do with here; and that is undeniable. Then let it be observed, that, though each of the *great* nations of Europe generally insists that the treaties, to which it is a party, shall be in its own language, or in *Latin;* yet, the French is, in spite of all the efforts made to prevent it, the universal language of *negotiations*. Few, indeed, comparatively speaking, are the persons employed in this way; but the instances, in which, for purposes connected with war, or with foreign commerce, it is necessary to be master of the French language, are by no means few, or of little importance.

In the carrying on of trade, and in the affairs of merchants, it is frequently absolutely necessary to be able to speak and write French. A young man, whether in the wholesale or retail trade, and especially in the counting-house of a merchant, is *worth* a great deal more when he possesses the French language, than when he does not. To travel on the continent of Europe without being able to speak French, is to be, during such travelling, a sort of *deaf and dumb person;* and the humiliation and mortification to be experienced in such a situation, will be by no means diminished by the reflection, that we owe them to our own want of attention and industry.

Though many French books are translated into English, the far greater part are not; and, in every branch of knowledge, numerous indeed are those works which it may be useful to read. But, were there only the pain arising from the want of a knowledge of French, when we fall into company where we hear one of our own nation conversing with a Frenchman, this alone ought to be more than sufficient to urge a young person on to the study.

I remember says one of the most voluminous writers of the age, and to whom we are much indebted for these remarks, a young lady, in Long Island, who had been out on a visit to a house where one of the company happened to be a French lady who could not speak English, and where a young American lady had been interpretress between this foreigner and the rest of the guests; and I shall never forget the manner in which the first mentioned young lady expressed the sense of her humiliation: 'I never before,' said she, 'in all my life, felt *envy;* but, there was Miss———, first turning to the right and then to the left, and at each turn, changing her language; and there sat I like a post, feeling myself more her inferior than I can describe.'

It is really thus. This talent gives, in such cases, not only an air of superiority, but also a reasonable and just claim to real superiority; because it must be manifest to every one that it is the effect of attention and industry, as well as good natural capacity of mind. It is not a thing like dancing or singing, perfection in the former of which is most likely to arise from an accidental pliancy of the limbs, and in the latter from an organization in the throat and lungs, not less accidental; it is not a thing of this sort, but a thing, the possession of which necessarily implies considerable powers of intellect, and a meritorious application of those powers. Besides these considerations, there is this: that by learning French *well*, you will really become more thoroughly acquainted with your own language. But nothing is justly gained without labor of some sort or other; and to succeed in such an undertaking requires much assiduity and perseverance.

SURPRISING PERFORMANCES OF TWO SWIMMERS.

When the Nile is swelled to the height of sixteen peeks, the bank is cut to let it into the great canal which runs through the city of Cairo. The ceremony of cutting this bank, which is raised every year, when the river begins to increase, is always performed with vast solemnity, in the presence of the bashaw himself, —who gives the first stroke,—accompanied by all his officers—this being one of the greatest festivals observed by the Egyptians. The barges and galleys, in which the bashaw comes up the river from Bulac, make a fine appearance, having *sails* of different colors, and an abundance of flags and streamers. The trumpets and other music, the firing of guns and repeated shouts of the people add to the grandeur of the scene, and make an exciting, if not an agreeable confusion. In a word bonfires, and splendid fireworks, together with divers sorts of games and exercises, and whatever can be thought of to demonstrate universal joy, are continued for three days and three nights, without intermission.

Among other diverting sights, which are exhibited on this occasion, Thevenot tells of two swimmers, whose performances were very surprising. One of these he saw with his hands tied behind his back, and his feet bound with an iron chain of ten pounds weight, who stood upright in the water, and in that manner went from the opening of the canal quite through grand Cairo, a distance of three or four miles, preceded by a boat full of people, with drums and trumpets, and followed by several others. He was rewarded by the bashaw with an elegant vest, and a present in money, besides what was collected from the spectators. Another swimmer swam in

chains from one end of the canal to the other, with a pipe in his mouth, and a dish of coffee in his hand, without spilling it; and he had the same reward from the viceroy.

COAL AND IRON.

A statement of the quantity of coal imported into the port of London since the year 1824.

	Ships.	Tons.
In 1825,	6,564	1,856,606
1826,	6,810	2,040,291
1827,	6,491	1,982,321
1828,	6,750	1,960,559
1829,	6,998	2,018,975
1830,	7,108	2,079,275
1831,	7,006	2,045,292
1832,	7,528	2,439,078
1833,	7,077	2,010,409
1834,	7,404	2,078,685

Few persons, perhaps, are aware of the vast amount which, in all civilized and manufacturing countries, is consumed in fuel. The imports of coal into London, which, according to the above statement, in 1834, were 2,078,685 tons, and are now, perhaps, 2 1-4 millions of tons—afford a supply for about one tenth or twelfth of the population of England and Scotland. Assuming then the consumption of England and Scotland to be ten times the amount of London, and estimating the price of coal at eight dollars per ton, it follows that the cost of the annual consumption of coal for about seventeen millions of people, is upwards of *one hundred and sixty millions of dollars*. The cost of bread stuffs has usually been considered greater than any other commodity, but we apprehend that in a manufacturing nation, like England, it falls below the cost of fuel. How utterly insignificant is the value of the annual products of the precious metals, which are such darling objects to mankind, compared with that of coal? All the gold and silver ever procured from the mines of this continent, in their most productive periods, did not annually exceed thirty-five millions of dollars, and the amount is at this day much below that sum.

Mines of iron and coal, however, are real sources of wealth and of power. They are not like gold and silver, which, save as a circulating medium, are mere superfluities—without which no man's security or happiness would be lessened. Iron and coal, on the other hand, are *prime necessaries of life*, on which not only our subsistence and comfort, but our national security, in a considerable degree, depends, —without them, or the means of purchasing them in abundance, we could not defend our shores from invasion,—and if we could, we should, in their absence, make very few advances in civilization. A country of ten millions of people, abounding in coal and iron mines, would be equal in wealth and power to a nation of twenty millions without these pre-eminent sources of wealth and strength, or depending upon other nations for a supply.

If we are right in the facts and principles here adduced, would not every reflecting and reasonable mind admit that if a country was actually in possession of such vast sources of wealth, strength and happiness—would they not say that no means should be spared to develope them, and with the least possible delay.

England is the only country in Europe which has yet possessed these subterranean riches, and at the same time had the intelligence to avail herself of them; and one of the consequences has been her greater advancement in the comforts and superfluities of life—in fine, of every thing constituting civilization, than that of any other nation.

There is, however, another country still richer in these natural resources than even Great Britain, and that is the States of this Union. There is in the single State of Pennsylvania perhaps as vast and as rich a body of coal and iron ore as in England, and which will, if properly improved, add as much to our national wealth and our national greatness as have the coal and iron mines of England and Scotland to the wealth and strength of that powerful nation.

This work has been already commenced, and nobly too, by the State of Pennsylvania, whose citizens have within twenty years expended, publicly and privately, thirty millions of dollars, to bring to the surface of the earth those heretofore hidden and useless treasures, and no part of the Union has derived so much benefit from this enterprise and expenditure as the inhabitants of New England—because no part of the country is so much in want of the products of these mines.

Had not the coal mines of Pennsylvania, which, be it remembered, down to this time, have been only a source of vast, *unremunerated* expense to that beautiful State—had not, we say, her rich minerals been uncovered—fuel, at this time, would, in this State, have been at double the existing prices.

WARMING HOUSES BY MEANS OF HEATED WATER.

If fire be applied for a sufficient length of time to the lowest part of a vessel containing liquid, the whole of the liquid, however remote it may be from the fire, will, as it is well known, ultimately become heated; for the water occupying the lowest strata will continually ascend by its increased levity, till the entire mass receives the highest temperature of which it is capable. An apparatus for the warming of houses is constructed upon this principle. A small metal boiler, made water tight, is placed upon a fire in the lowest part of the building. A tube proceeds from this vessel, and is carried through all the apartments required to be heated, passing along the walls in any convenient direction. The tubes and boiler are completely filled with water. A fire is kept lighted under the boiler so as to heat the water it contains. As this becomes lighter by increased temperature, it ascends through the tubes, and is replaced by the colder water descending; and this continues until the water in all the tubes is raised to the boiling point; the metal of the tubes becomes ultimately heated to the temperature of boiling water, and imparts an increased temperature to the air which surrounds them. The same tubes, being furnished in proper places with cocks, will supply hot water for baths and other domestic purposes in every part of the building.

The following Circular has just been sent to every Clergyman, in the State of Massachusetts, known to the Council who issued it. It is hoped others will also give the subject that attention its importance demands.

ADDRESS OF THE COUNCIL OF THE MASSACHUSETTS TEMPERANCE SOCIETY TO THE CLERGYMEN OF THIS COMMONWEALTH.

In addressing the Clergy of Massachusetts, the Council feel secure of both sympathy and support. The object of the temperance enterprise is human progress. It began when great ignorance, and an alarming apathy in regard to a subject of paramount interest prevailed. It was either not known, or certainly was not felt, how the customs of society in respect to the use, as drinks, of the various preparations of alcohol, were directly tending to intemperance, and to its numerous and unmixed evils. These customs were so prevalent, so almost universal, that the greater numbers in all communities were in that state of indifference about the whole subject, which so wide spread an evil is so sure to produce. The evil perpetuated itself; for example was wholly on its side; and to offer new views respecting it, was regarded as much an impertinence, as it was considered to be fanatical. How large an influence personal interest had, and continues to have, in supplying the means of continuing the customs referred to, is too well known to be more than alluded to. The temperance enterprise took all these facts into consideration, in the very earliest days of its history, and directed its efforts to two principal objects,—obtaining knowledge concerning this important subject of its interest,—and the diffusion of such knowledge through the whole country.

The Council cannot refrain here from adverting to the vast amount of information, which, within so short a period, has been acquired, and how generally and freely it has been spread abroad. The active friends of the reform everywhere have entered cheerfully into the labor of inquiry, and have daily sought for new means, and new occasions for promulgating what they believe to be the whole truth in regard to it. And with what precious results have these labors been blessed! This cause begun here; and from this country it has spread itself over the world. The doctrines of temperance have become settled, established principles. They enter deeply into the most important departments of education, having their broad and deep foundations in the physical and moral constitution of man. As such they address themselves to every friend of humanity, of every class, and of every clime. They call upon the great and the good everywhere for adoption, for practice, and for promulgation.

In addressing the Clergy of Massachusetts, on this great subject, the Council beg leave to ask for it their most serious attention. They know that its doctrines enter into, and form a vital part of, the teachings of the clergy. They beg leave now, most respectfully, to ask for it a particular, a special notice. And with this view, they submit their request, that each of the Clergy of this Commonwealth will devote a sermon or sermons to this subject on a particular day, and beg leave to designate the last Sunday in January next, for this object.

The union of such numbers on this important subject, and of men, too, holding the relations with communities which the clergy do, cannot but do good. It can only do good; for they are deeply conversant with the whole evil of intemperance. They see its evils in their most melancholy forms. They know how fatal it is to religious and moral progress,—how it embitters the whole of this life, and with what darkness it covers the future. The clergy enjoy the unquestionable privilege of speaking to their hearers as man to man, and an acknowledged authority to speak of all evil, and of all its consequences. By their numbers,—by their character and influence,—by their important relations, and by the kind respect and regard they everywhere enjoy in our State and land, they have nameless and numberless opportunities for doing good. Most earnestly do the Council of this Society make this appeal for their special aid in carrying forward this reform, in the conviction that such offices, by the blessing of God, are among the surest means of beneficence.

JOHN C. WARREN, *President.*
HORACE MANN, *Vice President.*
WALTER CHANNING, *Rec. Secretary.*
CHARLES BROWN, *Treasurer.*
MOSES GRANT, JOSHUA B. FLINT, SAMUEL K. LOTHROP, WILLIAM W. STONE, } *Counsellors.*

Boston, December 27, 1836.

HOSPITALS FOR IDIOTS AND LUNATICS.

Dean Swift left the bulk of his fortune, amounting to 11,000 pounds sterling to erect and endow a hospital for idiots and lunatics. We know not whether the money was appropriated according to the wishes of the donor.

Hospitals for lunatics are not so rare, at the present day, as hospitals for idiots. But both classes of men —for *men*, and even *brethren*, they still are—are too often overlooked. We seem to take it for granted that they are incapable of improvement; and though they are sometimes our near relatives, we turn them over, without any apparent remorse, to the same fate with our domestic cattle. We *fodder* them—but so we do our cattle.

And if but little can be done for them are we not bound as Christians—yea, as men—to do that little?

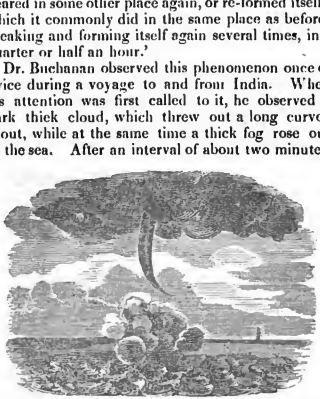
CHINESE CARVING.

In carving wood and ivory, and other substances, the Chinese have no rivals. We cannot approach them in their ivory workbaskets, fans, and other articles: no European artist, we believe, has ever attempted to cut out from one solid ball of ivory seven or eight interior ones, each separate from the rest, and as beautifully carved as the exterior one. These are all cut by the means of the several circular holes that are, in the first instance, bored through the solid ball.—*Quarterly Review.*

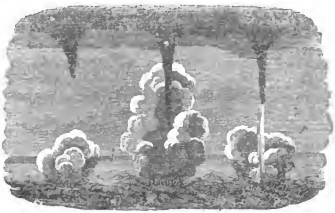
WATER-SPOUTS.

Among the most interesting phenomena observed at sea, we may mention the formation of water-spouts. This curious and perplexing phenomenon, is not to the present moment thoroughly understood, for it is still a matter of dispute among meteorologists, whether it is due to the agency of electricity, or to the mechanical action of whirlwinds. It is quite certain, that water-spouts are commonly attended with electrical phenomena, but it cannot be determined, from the data in the hands of the philosopher, whether electricity is an effect, or a cause, for it is equally certain that the spiral motion of the water must result from a gyratory motion of the air, which also may be an effect, or a secondary cause. Mr. Steward speaking of water-spouts, seen by him in the Mediterranean, in the year 1701, says 'it was observable of all of them, but chiefly of the large pillar, that towards the end it began to appear like a hollow canal, only black in the borders but white in the middle; and though at first it was altogether black and opaque, yet one could distinctly perceive the sea water to fly up along the middle of this canal, as smoke does up a chimney, and that with great swiftness, and a very perceptible motion; and then, soon after, the spout or canal burst in the middle, and disappeared little by little, the boiling up and the pillar-like form of the sea water continuing always the last, even for some time after the spout disappeared, and perhaps till the spout appeared in some other place again, or re-formed itself; which it commonly did in the same place as before, breaking and forming itself again several times, in a quarter or half an hour.'

Dr. Buchanan observed this phenomenon once or twice during a voyage to and from India. When his attention was first called to it, he observed a dark thick cloud, which threw out a long curved spout, while at the same time a thick fog rose out of the sea. After an interval of about two minutes,



the spout rushed down, and joined the cloud which had risen from the sea. The cloud from which the spout descended then moved, says Mr. Maxwell slowly along, and probably by its motion produced the water-spout. The fog proceeding from the sea was of the same color as the spout, and resembled the smoke of a steam-engine. The surface of the water under the spout was, during the whole time, in a state of violent agitation, and a noise was heard like that of a waterfall. The spout soon withdrew itself again into the cloud, from which it had descended, and the fog receded into the sea. The whole exhibition did not last more than three minutes. The same author had opportunities at other times of observing similar appearances, and in all cases they presented nearly the same phenomena, and he has represented in the following diagram the different states in which they occur. At



their first formation they appear of a conical tubular form, dropping from a black cloud, into the sea, before the disturbance of the sea is observed.

The black conical cloud then descends, and the smoke-like appearance from the sea ascends, until they join. When the spout begins to disperse, the black cloud draws itself up, and a thin transparent tube is left still united to the cloud that rose from the sea. This, however, is at last broken, and the phenomenon disappears.

The Hon. Capt. Napier has made some remarks, in the Philosophical Journal, upon a phenomenon of the same kind which he observed, and upon the probable cause of the appearance. On the 6th of September, 1814, in latitude thirty degrees and forty-seven minutes north, and longitude by chronometer sixty-two degrees and forty minutes west, at half past one P. M. the wind being variable between W. N. W. and N. N. E., the ship steering S. E. an extraordinary sort of whirlwind was observed to form about three cables' length, from the starboard bow of the ship Erne. It carried the water up along with it in a cylindrical form, in diameter about the size of a water butt, gradually rising in height, increasing in bulk, advancing in a southerly direction, and when at the distance of a mile from the ship, it continued stationary for several minutes, boiling and foaming at the base, discharging an immense column of water, with a rushing or hissing noise into the overhanging clouds, turning itself with a quick spiral motion, constantly bending and straightening according as it was affected by the variable winds, which now prevailed alternately from all points of the compass. It next returned to the northward, in direct opposition to the then prevailing wind, right upon the ship's starboard beam, whose course was altered to east in hopes of letting it pass astern. Its approach, however, was so rapid, that we were obliged to resort to the usual expedient of a broadside, for the purpose of averting any danger that might be apprehended, when after firing several shots, and one in particular having passed right through it at the distance of one third from its base, it appeared for a minute as if cut horizontally in two parts, the

divisions waving to and fro in different directions, as agitated by opposite winds, till they again joined for a time, and at last dissipated in an immense dark cloud and shower of rain. At the time of its being separated by the shot, or more probably by the agitation occasioned in the air by the discharge of several guns, its base was within much less than half a mile of the ship, covering a portion of the surface of the water at least half a furlong, or even three hundred feet in diameter, from one extreme circumference of ebullition to the other; and the neck of the cloud into which it discharges itself, appeared to have an altitude of forty degrees of the quadrant, while the cloud itself extended over head and all around to a very considerable distance. Allowing then from the ship a base of a little more than one third of a nautical mile, say 2050 feet, and an angle of forty degrees to the top of the neck, we shall then have for the perpendicular height of the spout about 1720 feet, or very nearly one third of a statute mile. A little before it burst, two other water-spouts of an inferior size were observed to the southward, but their continuance was of short duration.

Water-spouts are not uncommon on the Atlantic coast of the United States. Perhaps the most remarkable display of this nature, was one which took place at the mouth of Cape Fear river in 1806. On the 24th of July, of that year, between the hours of one and two, in the afternoon, eleven water-spouts were seen at Smithville, the summer residence of Benjamin Smith, then governor of North Carolina. The appearance of these phenomena was preceded by a dead, and gloomy calm, during which not a bird was to be seen. The sky at this time was covered with the blackest clouds. The spouts appeared to move from south to north. Though it is difficult to assign an adequate cause of these phenomena, it is easy to find objections to the theory of the mechanical action of whirlwinds, and perhaps also to other theories.

Whirlwinds of sufficient power can be formed only in the midst of a hurricane, but these phenomena do not appear to be attended with any very great degree of violence in the winds. Next the duration of the water-spouts appears to be generally too great for a whirlwind. Water-spouts have been seen at a little distance, for a sufficient time to give the beholder an idea of their form; and when broken have been reformed several times in succession; a whirlwind continuing for so long a time, and of sufficient force to form a vacuum in which a water-spout might rise, would doubtless manifest its power by other means than merely the production of this phenomenon, in such a manner as to excite observation.

The vicinity of water-spouts appears, from all the accounts to be too calm, during the time of their production to allow of the supposition of their being caused by whirlwinds. Those observed at the mouth of Cape Fear river, were some of them in the immediate vicinity of the light-house and of the land, but we hear nothing of the violence of the wind, or of damage done by it.

Next it is to be observed, that these phenomena have always been seen at some distance, and when formed extend from the clouds to the ocean. If raised by a vacuum in a whirlwind, they would extend but thirty-three feet into the air, unless we suppose the water below to sustain an uncommon pressure downward from the winds. We can hardly suppose that the spouts which have been observed, do not very greatly exceed the height to which water may be raised in a vacuum; and a very great downward pressure from the wind appears to be improbable.

The necessary or even occasional connection of a spout with a cloud, of intense blackness, but yet maintaining its definite distance above the ocean, and descending only at the point where the spout is formed, appears inconsistent with the supposition of a whirlwind. We can assign no cause for the formation of water-spouts, which appears to us more probable than electricity; but if required to give an opinion whether this is, in fact, the cause, or to explain the manner in which it may operate, we must confess our ignorance.

AN INDIAN'S JOKE.

In a time of Indian troubles, a friendly Indian visited the house of Governor *Jenks* of Rhode Island, when the governor took occasion to request him, if any strange Indian should come to his wigwam, to let him know it. This the Indian promised to do, and the governor told him that when he should give such information, he would give him a mug of flip. Some time after, the Indian came again, and on meeting the governor said, 'Well, Mr. gubernor, strange Indian come to my house last night.' 'Ah,' says the governor, 'what did he say.' 'He no speak,' replied the Indian. 'What, not speak at all?' inquired the governor. 'No, he no speak at all.' 'That looks suspicious,' said his excellency, and inquired if he were there still. Being told that he was, the governor ordered the promised mug of flip. When this was disposed of, and the Indian was about to depart, he mildly said, 'Mr. gubernor, my squaw have child last night;' and the governor finding the strange Indian was a new born pappoose, was glad to find there was no cause of alarm

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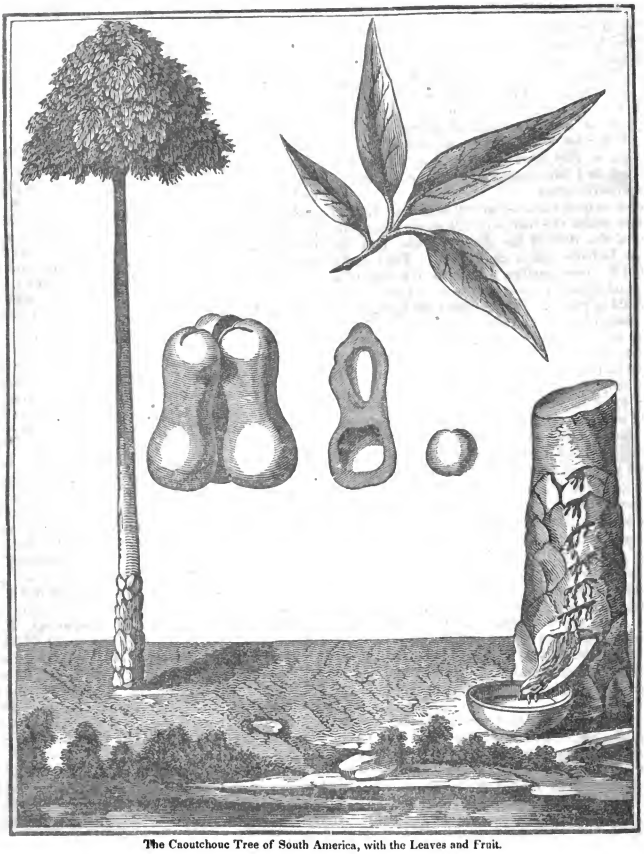
THE LOVELIEST SIGHT.

Sweet is the voice of Spring that wakes the song,
Where silence in the lap of Winter slumbered long,
Sweet is the violet with its eye of blue,
On which the stars have shed their pearly dew.
Sweet is the light that wakes the world again,
When night resigns her melancholy reign.
Sweet is the rose-bud, opening to the day,
Whose fragrant odors in the zephyrs play.
Sweet is the blush that mantles on the cheek,
Whose tints, of health, and youth, and beauty speak.
Sweet is the joy that springs within the breast,
When kindred souls are in each other blessed;
When friends, with arm in arm together walk,
And hours unheeded pass in tender talk;
Or when, as heart meets heart, in verdant bower,
Each finds, and owns young love's resistless power.
Sweet is the sound a mother learns to hear,
When infant lips have learned to claim her ear.
Sweet is the mother's voice, and sweet the smile,
With which she soothes its little cares the while.
There is a scene that more than all can please,
A bliss more deeply felt, more pure than these.
The scene—when Mary lifts her heart in prayer;
The bliss—from heaven descending on her there.



The Caoutchouc Tree of South America, with the Leaves and Fruit.

MEMOIR RELATIVE TO THE ELASTIC RESIN, RECENTLY DISCOVERED IN CAYENNE, BY M. FRESNAU.

BY M. DE LA CONDAMINE.

From the History of the Royal Academy of Sciences. 1751.]

In 1736 I sent the Academy, by the hands of the late M. du Fay, a short time after my arrival at Quito, some rolls of a black resinous mass, known in this city under the name of Caoutchou, or according to the Spanish orthography, Cauchue, (pronounced Ca-oo-shoo.) This name is given to this substance by the Indians of the Province of Mainas, amongst whom it is common, and who apply it to various purposes. I brought it to Quito from the province of Esmaraldas where I travelled, and where it bears another name. The following are the observations respecting it sent to the Academy on the twenty-fourth of June, 1736.

'There grows in the forests of the province of Esmaraldas, a tree called by the natives of the country, Ilhévé, (the Spaniards write it Jévé,) from which, simply by making an incision, there flows a resin, white like milk; it is received at the foot of the tree on leaves laid for that purpose; it is then exposed to the heat of the sun, by which it becomes

hard, and its color is changed to brown, externally at first, but afterwards internally also. Torches are made of it an inch and a half, or two inches in diameter, by about two feet in length, round which is wrapped a double fold of leaves of the banana, or the *Bihao*, (Bixao) to contain the substance when it is liquified by the flame which proceeds from it when lighted. Torches thus prepared burn without wicks, and do not run when kept still; they have a little odor, but it is by no means disagreeable. The light is very bright and not more than half a torch such as I have described will be consumed in burning twelve hours.

I have learned since my arrival at Quito, that the tree from which this matter distills grows also on the banks of the river of the Amazons, and that the *Mainas* Indians call it caoutchouc. They make use of it to cover earthen moulds in the form of a bottle, and when the resin becomes hard they break the mould in pieces. These bottles are lighter than those made of glass, and are not liable to break.'

This was all I knew on the subject of the caoutchouc resin in 1736. I made constant use of it for light in the night, during my journey in ascending the river *Esmaraldas*, and also during my stay in the forest of Sylvanche, the place of landing, where I was detained eleven days, for want of guides, and horses, or other animals, to carry me to Quito.

During the long time of my continuance in the province of which that city is the capital, I became acquainted with many other uses of caoutchouc. It has been used as a varnish for silk cloaks, which by this means are made completely water-proof, but are rather heavy. I used it to render water-proof a piece of canvas of which I formed a covering for a quadrant of three feet radius. This afforded me a facility for leaving the instrument mounted on a pedestal, completely sheltered from the rain and snow. I was also informed that at the missionary stations among the Mainas, which are at the east of the range of the Andes, boots had been formed of caoutchouc which will not admit water, and which after being smoked have a very great resemblance to leather.

Its uses have been very much extended by the Indians of Para, where the Portuguese have given the tree which produces the caoutchouc, the name of the *syringe tree* (Pao Xiringa,) because they make syringes of the resin in imitation of the *Omaguas*. These are little hollow balloons in the shape of a pear, to which a wooden pipe is fitted. At Para this matter is moulded in various forms, such as the figures of animals, or hollow or solid balls, ornamented with compartments raised or sunk, which are impressed on the matter while it is still soft.

A creole native of Paris, whose mother was a French woman of Cayenne, whither he followed me in 1744, brought thither a great number of these little works, which awakened the attention of the inhabitants to search for the tree which produces the resin. It was then discovered, though it is said to have been before unknown.

It is no doubt of this material, or of some other very analogous to it, that those finger-rings were made, of which some travellers have given an account, which, it was said, at the pleasure of the wearer would become bracelets, or collars, or even girdles. There is a little exaggeration in the last part of this account, and something more than mere exaggeration in what some grave authors have said, who have pretended that there was a substance found in the island of St. Domingo, possessing such a degree of elasticity that balls made of it being let fall, would rebound to a greater height than that from which their fall commenced. If they did not perceive that such a supposition was contrary to the law of nature, they might have perceived its absurdity by looking at the consequences. It is obvious that such a ball being left to fall freely on a horizontal plane, rising and falling alternately, and according to their supposition rising higher after every fall, would acquire a motion which would have no limit but immensity of space, and eternity of duration.

Caoutchouc does not dissolve either in water or spirits, at least I have kept it for several months without the water or the spirit of wine (alcohol) having caused any apparent alteration in the mass put into them, except that the color was a little clearer. I have observed that this substance floated in water without rising above it, and that it deposited only a few particles at the bottom of the vessel. It sinks in alcohol without depositing anything, and the spirit continues to be as limpid as before. This substance softens and becomes pliable in water when it is lukewarm, and also in the air when the thermometer of Reaumur stands at from thirty to forty degrees above the freezing point. But this depends more or less on the thickness of the mass. I have made several attempts to soften it sufficiently to form a paste which might be moulded anew, but I have not succeeded. It is only while it is liquid that different portions will unite, or that it will receive such forms as it may be desirable to give it.

In consequence of his other occupations, M. de la Condamine was unable himself to make all the researches in natural history which he desired, and to complete the information then known upon the subject he gave a memoir of the discovery of the caoutchouc tree, in Cayenne, by M. Fresnau. From him we take the drawing and description of the tree, with some account of the elastic substance as it was then known.

The Nouraga Indians, says he, gave me in clay the form of a triangular fruit, which should contain three nuts, (*amandes*,) produced by the tree which affords the elastic resin, the same which the Portuguese call *Pao xiringa*, or the syringe tree; and which, according to M. de la Condamine, is called *caoutçhouc* at *Quito*.

I arrived at the residence of M. Merigot, where I found a beautiful country, heretofore uncultivated, but having an excellent soil, and well adapted for sugar-cane plantations.

The day of my arrival I saw the tree I was in search of, and covered some works of pasteboard which I had prepared at Cayenne. The next day I ascended the river *Mataruni*, where I had been informed there were great numbers of trees. I arrived at night, and was well received by the Indians called *Coussaris*, who came to light me with torches of the bark of the tree. The chief did me the

honors which are customary with them. I was offered a beverage which I could not drink, and an *Aimora* dried in the smoke, (which is a good fish with scales,) was cooked for supper. I showed the Coussaris the fruit of the kind of tree which I was desirous of finding, and asked them if they had such trees in their country. They answered in their own language that there were a great many of them. I sent my Nouraga Indians to find the place early in the morning.

I found an infinite number growing on the banks on both sides of the river Mataruni, and had some of them notched for the purpose of taking the milky juice. I found it to be very thick, and during the six hours I remained with the Coussaris Indians, I could obtain but a small quantity, which I used to make a pair of boots, and other small works, such as syringes, elastic balls and bracelets. This was in the month of October, which in that country is the close of the summer. There had been a great drought during the season, which had probably made the milk thicker than it otherwise would have been.

This tree is very tall and straight, having a small top, and no branches on the trunk. The largest in Guiana are hardly two feet in diameter, and all the roots are under ground. The trunk is largest near the bottom where it is scaly like the pine-apple in appearance. The leaf resembles that of the *manioc*, being composed of several leaflets on the same stem, sometimes four or five in number, of unequal size, but generally only three. The largest leaves which are those in the centre, are about three inches long by three quarters of an inch wide.

The fruit of this tree is a triangular capsule, similar in form to the fruit of the *Palma Christi*, but it is much larger. The substance of the capsule is thick and of a ligneous texture. It has three receptacles, each of which contains a single seed of an oval shape, and of a brown color, in which the germ is found.

The syringe tree is very suitable for small masts in a single piece, or for top pieces of large masts. It is light and very pretty, and also very straight and tall.

The kernel being pounded and boiled affords a fat substance, useful to the Indians in the preparation of their food, according to the account they gave me. The parrots and the quadrupeds eat the seeds, which proves that they are not unwholesome. The following is the method of obtaining the milky juice of this caoutchouc.

First the root of the tree is washed, then long incisions are made in an oblique direction which penetrate through the bark, care being taken to make one directly over another, so that what flows from one of the higher incisions may fall into the one below it, and so on to the lowest, at the bottom of which is placed a leaf of the *balisier*, or some other like it, which is fixed with clay in such a manner as to conduct the juice into a vessel placed at the foot of the tree.

Besides the caoutchouc, there are in South America several other trees which produce a milky juice, in many particulars resembling the former.

But the works made of the milky juice of the *syringe tree*, though sensible to the least degree of freezing cold, yet greatly surpass all others, and the Portuguese use only the last. It has beside, the property of attaching itself to any other substance, and that much more strongly than the milk of the other trees. The heat of the sun makes no impression on it. Water will not penetrate through it, even when there are but one or two layers spread on any substance whatever. This property renders it more suitable for a great variety of purposes, than any other substance at present known.

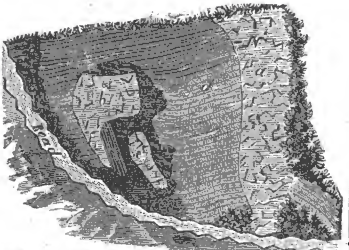
It is to be observed that the resins I have mentioned, differ from all other resins known, in not being liable to crack.

They may be used for torches, which have no need of wicks, and are lighted very easily. If a dish is placed under them when burning, to catch what flows from them, it may be used in forming new torches.

M. de la Condamine adds the following observation respecting other experiments of M. Fresnau.

M. Fresnau has made other experiments besides those above detailed. He has tried different methods of dissolving the caoutchouc, in which I could not succeed, either with water, or spirituous liquors. He has been much more successful than I was. He has effected the solution of caoutchouc by mixing it with oil of walnuts, and keeping it a long time over warm ashes or sand. The account of this process and various other curious experiments will give M. Fresnau an opportunity to enrich the collection of foreign memoirs presented to the Academy.

Mrs. Hemans' character of Wordsworth. I was driven to a lovely cottage-like building, almost hidden by a profusion of roses and ivy; and a most benignant old man greeted me in the porch; this was Mr. Wordsworth himself; and when I tell you that, having rather a large party of visitors in the house, he led me into a room apart from them, and brought in his family by degrees, I am sure that little trait will give you an idea of considerate kindness which you will both like and appreciate. In half an hour I felt myself as much at ease with him as I had with Sir Walter Scott in half a day. I laughed to find myself saying, on the occasion of some little domestic occurrence, 'Mr. Wordsworth how *could* you be so giddy?' He has, undeniably, a lurking love of mischief, and would not, I think, be half so safely entrusted with the tied-up bag of winds as Mr. —— insisted that Dr. Channing might be. There is almost a patriarchal simplicity, an absence of all pretension about him, which I know you would like; all is free, unstudied —'the river winding at its own sweet will'—in his manner and conversation there is more of impulse about them than I had expected, but in other respects I see much that I should have looked for in the poet of meditative life; frequently his head droops, his eyes half closed, and he seems buried in quiet depths of thought. I have passed a delightful morning to-day in walking with him about his own richly shaded grounds, and hearing him speak of the old English writers, particularly Spenser, whom he loves, as he himself expresses it, for his 'earnestness and devotedness.'



Veins and masses of granite in hornblende slate, Acworth, N. H.

GRANITE.

This kind of rocks is so common that almost every one is familiar with its appearance. It takes its name from the circumstance of its being composed of *grains*. It is generally said to consist of three simple minerals, namely, quartz, feld-spar, and mica. Some geologists add hornblende, but when this ingredient is found, others call it *sienite*. The magnitude of the masses of the ingredients varies from one or even two feet in diameter to grains so small, as to be distinguished with difficulty by the naked eye. There is a variety of granite called *graphic*, which consists of quartz and feld-spar only, in which the ingredients are usually in lengthened prisms so that the cross fracture presents the appearance of written characters. (See page 180, of the present volume.) The finest kinds of granite are used in architecture. The use of this material for the walls of dwelling-houses and public buildings, has very much increased within a few years. The first rail-road in the United States, was constructed expressly for the purpose of conveying granite from the quarry in Quincy, Massachusetts, to the water, that it might be transported to Boston. The facility with which it is split into blocks of almost any required size, and of regular shape, and its beauty and durability, have obtained for it a preference over most other kinds of stone for architectural purposes.

The increasing skill of those who work it and the competition of the owners of the different quarries, have also been the means of reducing the cost of the material in a state fit for use, in a very great degree, notwithstanding the increasing demand.

Professor Hitchcock, on the authority of a respectable architect in Boston, states, that the cost of the blocks of the Quincy granite for the Bunker hill monument, delivered at Charlestown, in a rough state, was thirteen cents and three mills per foot; for the church in Bowdoin street, built in 1832, fifteen cents; for the United States' Branch Bank, six years before, two dollars. Large quantities have been shipped from the northern to the southern ports.

The pillars of the arcade, in Providence, twelve in number, consist of white granite, twenty-one feet long, and three feet in diameter; and weigh about eleven tons each.

The pillars of the bank formerly occupied by the United States' Branch Bank, and those of the new Court-house, in Boston, are, perhaps, the largest blocks of granite which have yet been used in building in the United States.

The durability of this stone, as a building material, has not yet been sufficiently tested to enable us fully to determine its value in this respect. It is known to be liable to be affected in some measure by the atmosphere, and by heat and cold; but we are not informed that disintegration has taken place in edifices, to such a degree as to have caused any serious inconvenience, or any fears that it may prove less durable than has been expected.

If a fire be kindled in such a manner as to heat a rock of granite, and water be thrown on it while hot, though the heat may not be very great, it will exfoliate and pieces will fall off. This method of removing parts of rocks of granite, has long been known and practised, by persons who have not had other means at hand.

More information of the effect of fires which occur in buildings, upon the stability of granite walls, is desirable.

Geologists inform us, that granite is the lowest rock which is found in the crust of the earth.

Professor Hitchcock, in his report on the geology of Massachusetts, has noticed and given drawings of a considerable number of cases, in which granite has apparently been protruded into the veins of other rocks, and sometimes to have enveloped portions of them, precisely as might be expected from a fluid, or semifluid mass, driven forward with great force, under a heavy pressure, and occupying all the vacant spaces in its way.

The figure at the head of our article, may not be the most remarkable illustration of this theory, but is still considered to be one of great interest. It is in Acworth, New Hampshire, at a remarkable locality of beryls, rose quartz, and chrystalized mica. As the traveller approaches this spot, he will observe at several miles distance, a conical, half naked peak, chiefly of granite, shooting up three hundred feet above the surrounding country. This hill is represented as seen on the north-west side, along which a road passes. The prevailing rock in the vicinity is gneiss, the composition of which is similar to granite; but in this elevation it is chiefly hornblende slate, traversed by an enormous granite vein, *a*, and exhibiting at least two protruding masses, *b*, and *c*, of granite. The general direction of the laminæ of the slate is north and south, and the dip from fifteen to twenty degrees east. We have here the most decisive marks of its having been irregularly upheaved and disturbed by the protruding granite. Near the foot of the hill the slate is bent upward, so that the chord of the curve is several rods long. But it is a curious fact that the axis of the elevating force seems not to have coincided with the direction in which the vein was erupted.

These facts seem to indicate that the vein made its way through the slate, not along the line of the greatest pressure, but on the north side of it. We may suppose the melted granite below, to have gradually elevated the slate, until at length it burst its way laterally through the rock, where the resistance was the least.

MISS HANNAH ADAMS.

The father of Miss Adams was the only son of a farmer, in Medfield, Massachusetts, about eighteen miles from Boston. In early life he imbibed a taste for literature, and made preparation for pursuing a course of studies at the University. His constitution, however, was infirm, and his parents were very strenuously opposed to his leaving them. These circumstances induced him, though much against his inclination, to engage in the cultivation of a large farm; but the want of a suitable knowledge of agricultural pursuits, and a taste for the pleasures they afford, induced him to trust the affairs of his farm to other hands, while he opened a store for the sale of English goods and books. Miss Adams was born in 1755. Her health was always delicate, and her feebleness was such as to prevent her from engaging in any of those employments which require much strength of body. Her opportunities for acquiring an education by attending school, at that early period, in the annals of New England, were few and humble, compared with those which at the present day are afforded to youth in almost every part of New England. The foundation for a literary superstructure, consisting in the ability to read, she obtained, as is usual with all the children of New England, early in life. A knowledge of writing, and probably of the simple rules and most common applications of arithmetic, was added in due time. The superstructure itself, which afterwards appeared in fair proportions, was altogether of her own raising.

Her father had a supply of books which afforded more variety than the small family libraries of most persons in the same rank in life. A disinclination to engage in the amusements common with children of her age, which probably arose from a want of bodily vigor, left her at liberty to occupy her time in the perusal of books. Her father too was pleased with the exhibition of a taste congenial with his own. She was, however, early made acquainted with misfortune. At the age of ten years she lost a kind and affectionate mother. The death of her mother was soon followed by that of an aunt, to whom she was much attached. Another event which, in her feeble state of health, might be expected sensibly to affect her, was the failure of her father in business. Previous to this, she had had no occasion to anticipate difficulty in procuring those comforts which seem to be indispensable to the subsistence of persons in feeble health; but now she had no reliance but upon her own resources, and the kindness of Providence. To those who have been accustomed to such circumstances, and who have habituated themselves to think the care of Providence sufficient, this would be no hardship. But to the young and inexperienced, who know not the value of their mental powers, the trial which is induced by poverty, is peculiarly distressing. There was, however, in the constitution of her mind and heart, a provision for her enjoyment, which enabled her to bear her trials without sinking under the weight of affliction. Her heart was peculiarly alive to the ties of natural affection, which indeed made it hard to part with her friends, but a redoubled affection for those who were left probably had a soothing influence. She was also an enthusiastic admirer of the works of nature. The progress of vegetation in the spring, the opening of the rose in summer, and the ripening of the fruits of autumn—in all these there were sources of pleasure, which had a strong influence upon her feelings.

After her father's failure in business, a few boarders were received into his family, for the purpose of lessening the burden of the expense of the family; and some of these being persons of education, observing Miss Adams' thirst for knowledge, were induced to instruct her gratuitously, in a knowledge of Latin and Greek. Her progress and acquisitions in these languages were such, that several applications were made to her to instruct young gentlemen in their studies, preparatory to their commencement of a collegiate course. Three persons were thus prepared under her instruction for college. In her memoirs of her own life, written near its close, she informs us, that in her early years she was passionately fond of novels. A very great degree of sensibility found employment sometimes in scenes of imaginary distress, sometimes in the luxury of poetic description, and sometimes in the less seducing, but equally agreeable, enjoyments of the beauties of nature.

She had not the opportunity in early life of mingling in polished society, and afterward became painfully conscious of a singularity of manners, which she terms awkwardness, and which prevented her from finding as much enjoyment as she otherwise might have done, in the society of her friends. She had, however, in early life, a little circle of friends, who, as she informs us, were chiefly in indigent circumstances, and, like herself, were particularly fond of poetry and novels. But her strongest attachment, after the death of her mother and aunt, seems to have been to her eldest sister, of whom she thus speaks.

'I was blessed with a sister of similar taste and sentiments, but very different in her disposition. I

was warm and irritable in my temper, she placid and even. I was fluctuating and undecided, she steady and judicious. I was extremely timid, she blended softness with courage and fortitude. I was inclined to be melancholy, she was uniformly serene and cheerful.'

Until her twentieth year, with the exception of some attention to history and biography, her reading had chiefly consisted of works of imagination and feeling. One of her instructers in the languages, had a small manuscript from Broughton's dictionary, giving an account of some of the most common denominations of Christians. This awakened her curiosity, and gave a new turn to her reading. In perusing other works on the same subject, she became disgusted with the want of candor in the authors, and the harsh epithets applied by sectarian writers to other sects than their own. She formed a plan for herself, procured a blank book, and began to transcribe accounts of different religious sects. But having at this time no intention to publish, and being pressed by necessity to provide for her own support, she turned her attention, during the time of the war of the Revolution, to weaving bobbin lace, which was then saleable and profitable. She afterwards observed to one of her friends, that this employment was much more profitable than writing books. But at the termination of the war this resource failed. The difficulty of procuring work which her strength would enable her to do, induced her as a last resort to prosecute her researches, and to resume her compilation on an enlarged scale, in the hope that she might possibly derive some advantage from its publication.

While reading the various controversial authors, requisite to obtain the materials for her book, her mind was sometimes so strongly excited, as to render it necessary to desist for a time from her employment. The work was at length prepared for the press, and after some difficulty, was published in 1784, under the title of 'A View of Religions.' Her father had procured upward of four hundred subscribers for the benefit of the publishers; and for these and the copy, the authoress received only fifty copies of the work. Her father, who had made the arrangement with the publisher, might, perhaps, with more experience, have obtained a greater compensation.

Her health suffered severely from her intense application. After a tedious interval of great suffering, during which her friends feared a fatal termination by consumption, she began to recover. The first edition of her work being sold, she proposed to republish it; but being destitute of pecuniary resources, and dissuaded by her friends, her hopes were depressed, and her exertions discouraged.

In the midst of her difficulties she lost her eldest sister. This seems to have been the severest affliction she ever experienced.

She herself observes, that it was perhaps a happy circumstance that necessity stimulated her to exertion at this most gloomy period of her life. By great effort she prepared considerable additions to her 'View of Religions.' Having petitioned congress in 1790, for a general law, securing to authors the copy-right of their works, by the assistance of the Rev. Mr. Freeman, of Boston, she made an arrangement for republishing her 'View of Religions,' on such terms that she was enabled from the profits, to pay a few debts contracted during her own and her sister's illness, place herself in a comfortable situation, and place a small sum at interest.

Animated and encouraged by this success, she now engaged in writing a history of New England. An alarming weakness of the eyes delayed the prosecution of this work, but by perseverance she was enabled to publish it in 1799. This she did at her own expense, by which she incurred a debt beyond her resources, and derived but little profit from her work. Sometime after this she published a third edition of her 'View of Religions' with considerable additions, for which she received five hundred dollars. Her next work was a 'View of the Christian Religion,' published in 1804; after which, she contemplated an abridgement of her History of New England, for the use of schools, but was rather ungenerously anticipated by another person. Her next literary labor was the 'History of the Jews,' commencing with their state under the Persian monarchy. Though her former works had not afforded a very great remuneration to the authoress, they had been very kindly received by the public, and she had at this time obtained the friendship of a number of distinguished persons of both sexes. One lady allowed her for twenty-five years previous to her death, an annuity of a hundred dollars. Several gentlemen also settled an annuity upon her, by means of which her declining years were rendered comfortable, in respect to pecuniary matters, and she was enabled to render some assistance to her remaining sister. Her 'History of the Jews' increased her reputation and the number of her friends.

Her last literary work was entitled 'Letters on the Gospels.' She had contemplated a work on the New Testament, but was induced to publish it under the above title, in a smaller volume than she at first intended, by the infirmities of age. Her love of literary pursuits, and her enthusiastic admiration of nature and its beauties, continued till the close of her life.

She loved to gather round her images of natural and moral beauty. Her apartment was always decorated with flowers from the field or the garden. Spring seemed to her 'like the first freshness of creation.' On the approach of winter in 1831, her friends induced her to take up her residence at Brookline. The remaining portion of her history, which our limits allow us to give, is contained in the following inscription on a simple but elegant monument of marble, at Mount-Auburn.

TO

HANNAH ADAMS,

HISTORIAN OF THE JEWS, AND REVIEWER OF THE CHRISTIAN SECTS,

THIS MONUMENT IS ERECTED BY HER FEMALE FRIENDS.

FIRST TENANT OF MOUNT AUBURN,

SHE DIED DEC. 15, 1831,

AGED 76.

SAGOYEWATHA, OR RED JACKET, A FAMOUS INDIAN CHIEF.

The Senecas were the most important tribe among the Iroquois, or Five Nations.

The most distinguished man of this tribe in recent times, was the famous orator, known among the whites by the appellation, Red Jacket. He is said to have obtained this name, from the circumstance of his having worn a garment of a red color in his boyhood. His Indian name, more expressive of his personal character, may be translated *Wide-awake.*

De Witt Clinton, speaking of Red Jacket, in his discourse before the Historical Society of New York, says, 'Within a few years an extraordinary orator has arisen among the Senecas. Without the advantages of illustrious descent, and with no extraordinary talents for war, he has attained the first distinctions in the nation, by the force of his eloquence.'

Red Jacket was once denounced, at a great council of Indians, held at Buffalo creek, as a wizard, and the chief author of troubles among his tribe. He was tried in the council on this charge, but his eloquence saved his life, and greatly added to his reputation. At the delivery of his speech, in his defence, which was near three hours long, 'the iron brow of superstition relented under the magic of his eloquence; he declared the prophet, (his brother) an impostor and a cheat; the Indians divided, and a small majority appeared in his favor. Perhaps the annals of history cannot furnish a more conspicuous instance of the triumph of oratory, in a barbarous nation, devoted to superstition, and looking up to the accuser as a delegated minister of the Almighty.'

In 1784, a great council of all the Indian nations was held at fort Schuyler, when the interests of those nations, in respect to peace or war with the United States, was discussed and settled. At that time Red Jacket made a speech against concluding a treaty of peace with the United States. Lafayette was present; and in 1825, when he was at Buffalo, Red Jacket, having called upon him, asked him if he remembered the meeting. Lafayette replied that he had not forgotten that great event, and asked the Indian if he knew what had become of the young chief, who in that council opposed with so much eloquence the burying of the hatchet. Red Jacket replied, *he is before you.*

Red Jacket, at this interview as well as on other occasions, chose to speak only in his native language, and would not to reply to Lafayette till his questions had been interpreted into the Seneca language.

Red Jacket, with such of the Senecas as had an inclination to do so, joined the American army in 1812, and on one occasion acted a conspicuous part, and he is most favorably commended by the commanding-general. About three hundred volunteers and Indians, surprised the British and Indian camp, near fort George, at daylight on the 17th of August, 1813, killed seventy-five and took sixteen prisoners. The success of the expedition was almost entirely owing to a stratagem of the Indians, who decoyed their brethren on the British side into an ambush, by a war-whoop which they mistook for that of their friends.

Red Jacket's speeches, on various occasions, manifest a mind of the very first order. His speech in defence of the Indians for adhering to the belief in witchcraft, is not the least remarkable This was before a court in the State of New York, on the occasion of the trial of an Indian, for executing the determination of the council against an old woman, who had been condemned as a witch. Red Jacket attended the trial as a witness. When called before the court, the opposing counsel asked him if he believed in future rewards and punishments, and the existence of God. With a piercing look and no little indignation of expression, he answered, '*Yes, much more than the whites, if we are to judge by their actions.*' On the stand he is represented to have said;

'What! do you denounce us as fools because we still believe what you so carefully taught two hundred years ago?

'Your ministers have thundered this doctrine from the pulpit, your judges have pronounced it from the bench, your courts have sanctioned it with the forms of law; and you would punish an unfortunate brother for adhering to it as the belief of his fathers. Go to Salem! Look at the records of your government! You will find hundreds were executed for the same crime for which this woman was condemned, and drew down the arm of vengeance upon her. What have our brothers done more than the rulers of your people have done?'

Red Jacket resided, for many years previous to his death, about four miles from Buffalo, and a mile north of the road leading through the Seneca Reservation. His house was a log cabin, situated in a retired place. He was formerly considered to be a man of superior wisdom, and of a noble and dignified behavior which would have been an honor to any man. Travellers passing near his residence,

would frequently go out of their way to see this wonderful man and hear his profound observations. But, like many distinguished men among the whites, he was unable to resist the temptations of ardent spirits. This circumstance together with his age, rendered him in the latter part of his life less worthy of notice; but a short time before his death he was induced to make a tour through a portion of the United States, of which the principal object in those who proposed it probably was the gratification of the curious. But on this occasion, being conscious that the vigor of his intellect was gone, he could not often be induced to make any display of his oratorical powers. His death took place at his own house, on the 20th of January, 1830. His age at the time of his death may be conjectured, from the circumstance of his being a *young chief* in 1784, to have been between seventy and eighty years.

Some of the Senecas were Christians. But Red Jacket, who seems at all times to have distrusted the whites, always resisted the proposal to embrace their religion. His famous speech on the subject, which we give below, exhibits his thoughts concerning it. If the conduct of white people toward the Indians had always accorded with the principles of Christianity, there is no reason to suppose that Red Jacket would not have treated the subject in a different manner.

[From Drake's 'Book of the Indians.']

RED JACKET'S REPLY TO THE MISSIONARY.

In the year 1805, a council was held at Buffalo, in the State of New York, at which were present many of the Seneca chiefs and warriors, assembled at the request of a missionary, Mr. *Cram*, from Massachusetts. It was at this time that Red Jacket delivered his famous speech, about which so much has been said and written, and which we propose to give here at length, and correctly; as some omissions and errors were contained in it as published at the time. It may be taken as genuine, at least as nearly so as the Indian language can be translated, in which it was delivered; for Red Jacket would not speak in English, although he understood it. The missionary first made a speech to the Indians, in which he explained the object for which he had called them together; namely, to inform them that he was sent by the missionary society of Boston, to instruct them how to worship the *Great Spirit*, not to get away their lands and money; that there was but one religion, and unless they embraced it they could not be happy; that they had lived in darkness and great errors all their lives; he wished, that if they had any objections to his religion, they would state them; that he had visited some smaller tribes, who waited their decision before they would consent to receive him, as they were their older brothers.

After the missionary had done speaking, the Indians conferred together about two hours, by themselves, when they gave an answer by Red Jacket, which follows:

'*Friend* and *brother*, it was the will of the Great Spirit that we should meet together this day. He orders all things, and he has given us a fine day for our counsel. He has taken his garment from before the sun, and caused it to shine with brightness upon us; our eyes are opened, that we see clearly; our ears are unstopped, that we have been able to hear distinctly the words that you have spoken; for all these favors we thank the Great Spirit, and him only.

'*Brother*, this council fire was kindled by you; it was at your request that we came together at this time; we have listened with attention to what you have said; you requested us to speak our minds freely; this gives us great joy, for we now consider that we stand upright before you, and can speak what we think; all have heard your voice, and all speak to you as one man; our minds are agreed.

'*Brother*, you say you want an answer to your talk before you leave this place. It is right you should have one, as you are a great distance from home, and we do not wish to detain you; but we will first look back a little, and tell you what our fathers have told us, and what we have heard from the white people.

'*Brother*, listen to what we say. There was a time when our forefathers owned this great island. Their seats extended from the rising to the setting sun. The Great Spirit had made it for the use of Indians. He had created the buffalo, the deer, and other animals for food. He made the bear and the beaver, and their skins served us for clothing. He had scattered them over the country, and taught us how to take them. He had caused the earth to produce corn for bread. All these things he had done for his red children, because he loved them. If we had any disputes about hunting-ground, they were generally settled without the shedding of much blood: but an evil day came upon us; your forefathers crossed the great waters, and landed on this island. Their numbers were small; they found friends, and not enemies; they told us they had fled from their own country for fear of wicked men, and came here to enjoy their religion.

'They asked for a small seat; we took pity on them, granted their request, and they sat down amongst us; we gave them corn and meat; they gave us poison in return. The white people had now found our country, tidings were carried back, and more came amongst us; yet we did not fear them, we took them to be friends; they called us brothers; we believed them, and gave them a larger seat. At length their numbers had greatly increased; they wanted more land; they wanted our country. Our eyes were opened, and our minds became uneasy. Wars took place; Indians were hired to fight against Indians, and many of our people were destroyed. They also brought strong liquors among us: it was strong and powerful, and has slain thousands.

'*Brother*, our seats were once large, and yours very small; you have now become a great people, and we have scarcely a place left to spread our blankets; you have got our country, but are not satisfied; you want to *force your religion upon us*.

'*Brother*, continue to listen. You say that you

are sent to instruct us how to worship the Great Spirit agreeably to his mind, and if we do not take hold of the religion which you white people teach, we shall be unhappy hereafter; you say that you are right, and we are lost; how do we know this to be true? We understand that your religion is written in a book; if it was intended for us as well as you, why has not the Great Spirit given it to us, and not only to us, but why did he not give to our forefathers the knowledge of that book, with the means of understanding it rightly? We only know what you tell us about it; how shall we know when to believe, being so often deceived by the white people?

'*Brother*, you say there is but one way to worship and serve the Great Spirit; if there is but one religion, why do you white people differ so much about it? why not all agree, as you can all read the book?

'*Brother*, we do not understand these things; we are told that your religion was given to your forefathers, and has been handed down from father to son. We also have a religion which was given to our forefathers, and has been handed down to us their children. We worship that way. It teacheth us to be thankful for all the favors we receive; to love each other, and to be united; we never quarrel about religion.

'*Brother*, the Great Spirit has made us all; but he has made a great difference between his white and red children; he has given us a different complexion, and different customs; to you he has given the arts; to these he has not opened our eyes; we know these things to be true. Since he has made so great a difference between us in other things, why may we not conclude that he has given us a different religion according to our understanding: the Great Spirit does right; he knows what is best for his children; we are satisfied.

'*Brother*, we do not wish to destroy your religion, or take it from you; we only want to enjoy our own.

'*Brother*, you say you have not come to get our land or our money, but to enlighten our minds. I will now tell you that I have been at your meetings, and saw you collecting money from the meeting. I cannot tell what this money was intended for, but suppose it was for your minister; and if we should conform to your way of thinking, perhaps you may want some from us.

'*Brother*, we are told that you have been preaching to white people in this place; these people are our neighbors, we are acquainted with them; we will wait a little while and see what effect your preaching has upon them. If we find it does them good, makes them honest, and less disposed to cheat Indians, we will then consider again what you have said.

'*Brother*, you have now heard our answer to your talk, and this is all we have to say at present. As we are going to part, we will come and take you by the hand, and hope the Great Spirit will protect you on your journey, and return you safe to your friends.'

Red Jacket took part with the Americans, in the war of 1812, but was not distinguished for that prodigality of life which marked the character of *Tecumseh*, and many others, but, on all occasions, was cool and collected.

RED JACKET'S FAREWELL TO COLONEL SNELLING.

He had become attached to Colonel Snelling during the war, and when he heard that that officer was ordered to a distant station, he went to take his farewell of him. At that interview he said,

'*Brother*, I hear you are going to a place called Governor's island. I hope you will be a governor yourself. I understand that you white people think children a blessing. I hope you may have a thousand. And, above all, I hope wherever you go, you may never find whiskey more than two shillings a quart.'

CHINESE STREETS AND SHOPS.

The portion of Canton in which the European factories are situated, being a mere suburb, does not contain all the decorations of the city; but the arrangement and architecture of its streets and shops is precisely the same as within the walls of the city. The shops are commonly quite open towards the street—that is, those appropriated to Chinese customers; for the few streets devoted to European trade are rather on a different plan, the shops being of a closer structure, and less exposed to external observation. The several streets are commonly devoted to distinct trades. There is *Carpenter* street, or rather square, as it is carried round a parallelogram; *Curiosity* street, (as the English call it,) is devoted to the sale of antiquities, real and factitious; and *Apothecary* street is full of druggists' shops, the drawers in which are neatly arranged and lettered, but filled principally with simples. By the side of each shop is suspended from on high a huge ornamental label of wood, on which are described the particular calling of the tenant, and the goods in which he deals. This label being hung like the sign of one of our inns, with its edge towards the street, and inscribed on both sides, can be read by all who approach the shop in either direction; and the vista of these numerous variegated sign boards, glittering with gold and varnish, gives to the better streets a very gay appearance.

The inscriptions in the shops are sometimes amusing, and at the same time highly characteristic of the keenness and industry of the people as traders. We have seen the following:—'Gossiping and long sitting injure business.' 'Former customers have inspired caution—no credit given.' 'A small stream always flowing.' 'Goods genuine, prices true.' 'Trade circling like a wheel,' &c. Either the police must be very good, or the populace tolerably abstemious; for some of the shops, which are pretty richly supplied, appear to be pretty much exposed towards the street. But the inhabitants of each division generally combine into a system of watch and ward, for the common protection; and during the night the streets are closed at each end by doors, which are guarded by the regular police.—*Davis's China.*

HABITS AND SAGACITY OF THE ELEPHANT.

In a former number (page 147, vol. 3d.) we gave a description of the elephant, and an account of the manner of taking him. But the habits and sagacity of this remarkable animal are not less interesting than any thing else relating to him. There are numerous anecdotes respecting him which are extensively known. This may be the case with some we have selected, but we trust they will still be found interesting, even to those who may remember to have seen them before.

The elephant, when tamed, becomes the most gentle and obedient of all domestic animals. He soon learns to comprehend signs, and even to understand the expression of sounds. He distinguishes the tone of command, of anger, or of approbation; and regulates his actions accordingly. He receives the orders of his keeper with attention, and executes them with prudence and eagerness, but without any degree of precipitation; for his movements are always measured, and his character seems to partake of the gravity of his bulk. He is easily taught to bend his knees, for the accommodation of those who mount him; and to use his trunk for raising burdens, and to assist in loading himself; he allows himself to be clothed, and is employed in drawing chariots, ploughs, and waggons. He draws steadily and never proves restive, unless insulted by improper chastisement. The man who conducts him generally rides on his neck, and uses an iron rod, hooked at the end, or having there a kind of bodkin, with which he pricks the head or sides of the ears, in order to urge him forward, or to turn him. But words are generally sufficient.

The domestic elephant performs more work than perhaps six horses. He is generally fed with rice, raw or boiled and mixed with water; and, to keep him in full vigor, he is said to require daily a hundred pound weight of this food, besides fresh herbage to cool him; and he ought to be led to the water twice or thrice a day for the purpose of bathing. He sucks up water in his trunk, carries it to his mouth, drinks part of it, and by elevating his trunk, allows the remainder to run over every part of his body. His daily consumption of water for drink, has been calculated at forty-five gallons.

To give an idea of the labor which he performs, it is sufficient to remark, that all the tuns, sacks, and bales, transported from one place to another in India, are carried by elephants; that they carry burdens on their bodies, their necks, and even in their mouths, by giving them the end of a rope, which they hold fast with their teeth; that, uniting sagacity to strength, they never brake nor injure any thing committed to their charge; that, from the banks of the rivers they put these bundles into boats without wetting them, laying them down gently, and arranging them where they ought to be placed; that, when disposed in the places where their masters direct, they try with their trunks whether the goods are properly stowed; and, if a tun or a cask roll, they go, of their own accord, in quest of stones to support and render it firm.

M. Phillipe was witness to the following facts. He one day went to the river at Goa, near which place a great ship was building. Here was a large area, filled with beams for that purpose. Some men tied the ends of heavy beams with a rope, this was handed to an elephant, who carried it to his mouth, and, after twisting it round his trunk, drew it, without any conductor, to the place where the ship was building. One of the elephants sometimes drew beams so large, that it would have required more than twenty men to move them. But what surprised this gentleman still more, was, that when other beams obstructed the road, he elevated the ends of his own beam, that it might run easily over those which lay in his way.

Elephants not only obey the voice of their keeper when present, but some even in his absence will perform extraordinary tasks which have been previously explained to them. 'I have seen two,' says M. D'Obsonville, 'occupied in beating down a wall, which their *cornacs* or keepers had desired, and had encouraged them to do by a promise of fruits and brandy. They combined their efforts, and doubling up their trunks, which were guarded from injury by leather, thrust them against the strongest part of the wall; and by reiterated shocks continued their efforts, carefully observing and following with their eyes the effects of the equilibrium at last, when it was sufficiently loosened, making one violent push, they suddenly drew back together, that they might not be wounded; and the whole came tumbling to the ground.'

At a certain season of the year, these animals are seized with a ferocity which renders them intractable and formidable; but in their ordinary state, the most acute pains will not provoke them to injure those who have not offended them. A female elephant, rendered furious by the wound she had received at the battle of Hambour, ran about the field making the most hideous cries. A soldier, notwithstanding the alarm of his comrades, was unable, perhaps on account of his wounds, to fly. The elephant approached, seemed afraid of trampling upon him, took him up with her trunk, placed him gently on his side, and continued her route.

An incident to which M. le Baron de Lauriston was witness during one of the late wars in the East, forms another proof of the sensibility of the elephant. This gentleman, from peculiar circumstances, was induced to go to Lucknor, at a time when an epidemic distemper was making the greatest ravages amongst the inhabitants. The principal road to the palace-gate was covered with the sick and dying, extended on the ground, at the very moment when the nabob must necessarily pass. It appeared impossible for his elephant to do otherwise than tread upon and crush many of these poor wretches, unless the prince would stop till the way could be cleared; but he was in haste, and such tenderness would have been unbecoming in a person of his importance. The elephant, however, without appearing to slacken his pace, and without having received any command for that purpose, assisted them with his trunk, removed some, set others on their feet, and stepped over the rest, with so much address and assiduity, that not one person was wounded. An Asiatic prince and his slaves were deaf to the cries of nature, while the heart of the beast relented: he, more worthy than his rider to elevate his front towards

the heavens, heard and obeyed the calls of humanity.

The following instance of the sagacity of these animals was mentioned to Dr. Darwin, by some gentlemen of undoubted veracity, who had been much conversant with our Eastern settlements. The elephants that are employed in carrying the baggage of our armies, are put each under the care of one of the natives of Indostan; and while this person and his wife go into the woods to collect leaves and branches of trees for his food, they fix him to the ground by a long chain, and frequently leave a child yet unable to walk, under his protection; and the intelligent animal not only defends it, but, as it creeps about, when it arrives near the extremity of his chain, he wraps his trunk gently around its body, and brings it again into the centre of his circle.

During one of the wars in India many Frenchmen had an opportunity of observing one of the elephants that had received a flesh-wound from a cannon-ball. After having been twice or thrice conducted to the hospital, where he extended himself to be dressed, he afterwards used to go alone. The surgeon did whatever he thought necessary, and sometimes applied even fire to the wound. The pain which the animal suffered, often caused him to utter the most plaintive groans, yet he never expressed any other token than that of gratitude to the person who thus by momentary torments effected his cure.

In the last war, a young elephant received a violent wound in its head, the pain of which rendered it so frantic and ungovernable, that it was found impossible to persuade the animal to have the part dressed. Whenever any one approached, it ran off with fury, and would suffer no person to come within several yards of it. The man who had the care of this animal, at length hit upon a contrivance for securing it. By a few words and signs he gave to its mother sufficient intelligence of what was wanted: the sensible creature immediately seized her young one with her trunk, and held it firmly down, though groaning with agony, while the surgeon completely dressed the wound: and she continued to perform this service every day till the animal was perfectly recovered.

A nurse frequently took a young child from its cradle, and placed it between the feet of an elephant. This he at length became so much accustomed to, that he would never eat his food except it was present. When the child slept, he would drive off the flies with his proboscis; and when it cried, would move the cradle backward and forward, and thus rock it again to sleep.

A sentinel belonging to the present menagerie at Paris, was always very careful in requesting the spectators not to give the elephants any thing to eat. This conduct particularly displeased the female, who beheld him with a very unfavorable eye, and several times endeavored to correct his interference, by sprinkling his head with water from her trunk. One day, when several persons were collected to view these animals, a bystander offered the female a bit of bread. The sentinel perceived it; but the moment he opened his mouth to give his usual admonition, she, placing herself immediately before him, discharged in his face a considerable stream of water. A general laugh ensued; but the sentinel having calmly wiped his face, stood a little to one side, and continued as vigilant as before. Soon afterwards, he found himself under the necessity of repeating his admonition to the spectators; but no sooner was this uttered, than the female laid hold of his musket, twirled it round with her trunk, trod it under her feet, and did not restore it till she had twisted it nearly into the form of a screw.

M. Navarette says, that at Macasar, an elephant-driver had a cocoa-nut given him, which, out of wantonness, he struck twice against his elephant's forehead, to break. The day following the animal saw some cocoa-nuts exposed in the street for sale, and taking one of them up with its trunk, beat it about the driver's head, and killed him on the spot.

That elephants are susceptible of the warmest attachment to each other, the following account, extracted from a late French Journal, will sufficiently prove. Two Ceylonese elephants, a male and female, each about two years and a half old, were, in 1786, brought into Holland, as a present to the stadtholder. After the subjugation of Holland by the French, they had been separated, in order to be conveyed from the Hague to Paris; where a spacious hall was prepared for their reception in the place now called the Jarden des Plantes. This was divided into two apartments, which had a communication by means of a large door resembling a portcullis. The enclosure round these apartments consisted of very strong wooden rails. The morning after their arrival they were conveyed to this habitation. The male was first brought, he entered the apartment with suspicion, reconnoitred the place, and then examined each bar separately with his trunk, and tried its solidity by shaking it, when he arrived at the portcullis, which separated the apartments, he observed that it was fastened only by a perpendicular iron bar. This he raised with his trunk; he then pushed up the door, and entered the second apartment where he received his breakfast. These two animals had been parted (but with the utmost difficulty) for the convenience of carriage, and had not seen each other for some months; and the joy they experienced, on meeting again, after so long a separation, is scarcely to be expressed. They immediately rushed towards each other, and sent forth cries of joy so animated and loud as to shake the whole hall. They breathed also through their trunks with such violence, that the blast resembled an impetuous gust of wind. The joy of the female was the most lively. She expressed it by quickly flapping her ears, which she made to move with astonishing velocity, and drew her trunk over the body of the male with the utmost tenderness. She particularly applied it to his ear, where she kept it a long time; and, after having drawn it over his whole body, often moved it affectionately towards her own mouth. The male did the same over the body of the female, but his joy was more steady. He seemed, however, to express it by tears, which fell from his eyes in abundance. After this time they occupied the same apartment; and their mutual tenderness and natural affection, excited the admiration of all who have visited them.

The M'Lean Asylum for the Insane, at Charlestown, Mass.

THE M'LEAN ASYLUM FOR THE INSANE.

The M'Lean Asylum for the Insane, is under the direction of the trustees of the Massachusetts General Hospital. It is situated on one of the most beautiful spots in the vicinity of Boston, which was formerly the estate of a gentleman of great wealth, and was selected by him on account of the salubrity of the air, and the extent and variety of the view. Though sufficiently near to Boston for the convenience of the visiters and trustees, who generally reside in the city, it is not directly on any of the principal avenues to the city, and is sufficiently retired to afford the quiet and rural serenity, which in all cases is found to be conducive to a calm and healthy condition of mind. The history of the asylum is intimately connected with that of the Massachusetts General Hospital, of which it forms a part. A legacy, of five thousand dollars, was left to the town of Boston, near the close of the last century, 'towards the building of a hospital,' to be paid as soon as the town should determine to begin the work. This had the effect of awakening the attention of the public to the subject.

In August, 1810, two physicians living in Boston, addressed a circular letter, in which the advantages of a hospital were forcibly and correctly stated, to several gentlemen, possessed of ample fortune, and a disposition to contribute to institutions for the promotion of the public good. The contributions and the influence of several gentlemen of wealth and character were at this time pledged to the establishment and support of this great work. In the beginning of the next year, 1811, James Bowdoin, John Adams, Elbridge Gerry, Theophilus Parsons, William Gray, John T. Kirkland, Harrison G. Otis, Christopher Gore, William Eustis, William Phillips, John Q. Adams, Henry Dearborn, Levi Lincoln, Isaac Parker, Joseph B. Varnum, George Cabot, Perez Morton, Thomas H. Perkins, and others, amounting to fifty-six in the whole, were incorporated by the legislature under the name of the Massachusetts General Hospital. This also granted the corporation the fee simple in a valuable estate in Boston, called the old Province House, on conditions which, as afterwards modified, resulted in an obligation to raise a hundred thousand dollars from other sources, within a year after the contemplated sale of the same. The corporation were authorized to hold property yielding a yearly income not exceeding thirty thousand dollars, with various other privileges. The governor, lieutenant governor, president of the senate, speaker of the house of representatives, and the two chaplains of the legislature, were constituted a board of visiters, with power to visit semi-annually, or as often as they should think it expedient.

The embarrassments occasioned by the war between Great Britain and the United States, delayed the prosecution of this enterprise for some years. The subscriptions were not collected till 1816.

Legacies and subscriptions from public spirited individuals, in sums of one hundred dollars and upward, to five thousand, ten thousand, and fifteen thousand, and one of nearly ninety thousand dollars, have manifested the public favor.

The M'Lean Asylum was opened for the reception of boarders, October 1st, 1818.

Our limits do not allow us to enter into the details of the institution. We have before given our readers some account of the mode of treatment. (Page 150, of the present volume.) The number of admissions up to Jan. 1st, 1836, was 1206.

Graham Island during the eruption July 18, 1831.

SUBAQUEOUS VOLCANOES.

It is much more difficult to obtain information respecting volcanic eruptions in the sea, than respecting those which take place on land. Unless an island is produced, the result of a volcanic eruption below the surface of the waters will be invisible after the active force is abated, and an active volcano would seldom find an observer during the time of the eruption.

Some of the most remarkable subaqueous eruptions with which we are acquainted, are those which troubled the sea of Azof, the Azores and the island of Santorino in the Grecian Archipelego.

Pliny says there is a tradition that the island of Santorino rose out of the sea, and supposes it to have occurred about 231 B. C.

By the activity of a volcanic force, proceeding probably from the same cause, several islands have at various times been formed.

Hiera rose from the sea in the year	197 B. C.
Thia - - - - - -	40 A. D.
Hiera and Thia were united	726 A. D.
Little Kamenoi was formed	1573 A. D.

On the 22d of May, 1797, the volcanic power was again active, and the islands were violently shaken by an earthquake. On the following morning Isola Nuova, a new island, was observed, and a few days after several persons ventured to visit it; but during their stay it shook so violently that they hastily left the treacherous ground on which they had trespassed.

In July there arose at a distance of about sixty paces from the new island a ridge of black rocks from which vast columns of smoke issued. The inhabitants of Santorino were greatly alarmed at this new exhibition of volcanic activity, and the vapor was so prejudicial that many of the inhabitants were killed by inhaling it, and all of them suffered more or less from its effects. On the 21st, the sea seemed as though it were ready to boil, and in two places revolved in circular eddies. For ten years the volcanic power continued in a state of partial excitement, and the inhabitants were frequently alarmed by subterraneous noises and earthquakes.

The most recent instance of subaqueous eruption which has come to our knowledge, is that which produced Hotham, or Graham Island, in the year 1831. This island was thrown up between the south-west coast of Sicily and the African coast, in latitude thirty-seven degrees eight minutes and thirty seconds north, and longitude twelve degrees forty-two minutes and fifteen seconds east. The eruption seems to have been first observed by John Corrao, the captain of a Sicilian vessel, who passing near the spot on the tenth of July, observed an immense column of water ejected from the sea, to the height of sixty feet, and about 800 yards in circumference.

On the 18th of July Corrao again passed the same spot, and he then found that a small island had been formed, twelve feet high, with a crater in the centre, from which were ejected immense columns of vapor, and masses of volcanic matter. The island was afterwards visited by several scientific gentlemen, and is said to have been two hundred feet high, and three miles in circumference on the 4th of August. But from this time the island decreased in size; for, being composed of loose scoriæ and pummice, it was rapidly acted on by the water, and on the 3d of September, when carefully measured by Capt. Waterhouse, was only three-fifths of a mile in circumference, and one hundred and seven feet high. At the end of October the island had entirely disappeared except one small point composed of sand and scoriæ. Capt. Swinburne examined the spot in the beginning of the year 1832, and found an extensive shoal to occupy the place where the island had been, and in 1833 there was, in the place of the island, a dangerous reef, of an oval form, and three-fifths of a mile in circumference.

Several of the islands of the Pacific ocean probably owe their origin to the same cause. The era when they rose is of course unknown, but the volcanic power, which yet remains unextinguished, clearly indicates the probable nature of their origin. We speak not of a certainty, for we cannot know that these islands may not have existed before the volcanic eruptions burst forth. But to our mind, there appears a probability that the mountain which surrounds the fires of Peel arose at the time the fires were kindled.

Remarkable circumstance.—Upon the trial (by court martial) of Captain Seymour and the officers of H. B. Majesty's frigate Challenger, for the loss of that ship near the port of Conception, on the coast of Chili, the extraordinary fact was given in evidence that the late earthquakes on that coast have transformed what was previously a current of two miles an hour to the northward, into a current of five miles an hour to the southward, and that the soundings along the whole coast have been materially changed.

INTEREST OF MONEY.

The laws restricting the rate of interest for the use of money, now in operation in most of the States, are relics of opinions current in society, when the nature of commercial transactions was but little understood. They are oppressive in their operation, both to the borrower and the lender. Money, employed in trade, by a skilful person, may produce to the borrower twenty or twenty-five per cent. in a year; and a person having a knowledge of mercantile concerns, may very well afford to give ten or twelve per cent. but the law, (which is altogether arbitrary in the rate it allows,) forbids him to do so.

Provision for relief when the lender may have taken improper measures to extort more than the customary rate, the market being free, might not be improper.

We make an extract on this subject, from a report of a committee of the chamber of commerce, of the city of Philadelphia, dated Dec. 17th, 1836.

'The necessity for removing restraints on the rate of interest, has become strikingly manifest within a few months, during which time, owing to a variety of circumstances, discounts have been higher than were ever before known in this country. The rates prevalent in Boston have been from two to four per cent. per month; in New York from two to three and a half per cent. per month, and in Philadelphia from one and a half, to two and a half per cent. per month. These rates have been as current as the market rates for flour, meat, cotton, or any other merchandise, and yet no one has ever thought of the expediency of restraining the miller from selling his flour beyond six dollars per barrel, or the butcher and planter from selling their meat and cotton higher than six cents per pound. The community would not submit to such usurpation as fixing the prices of all articles of merchandise, neither will they submit much longer to the arbitrary dictation of the law, in fixing the price of money—an article more liable to fluctuation than any other merchandise.

This law is useless—even worse than useless—it is attended with much injury, besides being very arbitrary. It is broken, over and over again, every day. The borrower feels the injustice as well as the lender, and thinks none the worse of the lender for receiving the current rate of interest. The necessary operation of the law is to induce the employment of third persons and brokers, for the purpose of more safely affecting an illegal transaction. These intermediate persons must be paid by the borrower, and thus the rate of interest is uselessly increased. If there were no usury law, the borrower would go directly to the capitalist, and bargain for the purchase of money on the best terms in his power. If there were no restraining law, conscientious capitalists, of whom there are many in all our large towns, who are now deterred from infringing on this law, however absurd and unjust, would come into the money market, and sell their money for a price which many enterprising mechanics and merchants would be happy to pay for it, instead of investing it in Western and Southern securities, which yield a higher interest than our Eastern stocks do. Thus the money of our own citizens would be kept at home, and the competition which would thus be created between the other banks and the money lenders, would reduce the price of this article down to its fair and true value.

There are several exceptions in the laws restraining the rate of interest—viz:

Bottomry, or bonds upon ships.

Respondentia—or loans upon shipments by sea, including Marine Insurance.

Pawn-broking, or loans upon personal property, which are at very high rates of interest.

Besides the above, there are several laws incorporating railway and banking institutions which authorize the managers and directors of said corporation to assess interest at the rate of twelve to eighteen per cent. per annum, on delinquent subscribers, to compel the payment of the instalments. These examples are cited for the purpose of shewing that usurious interest has been allowed by our legislature in cases where expedience has pointed out its utility, and we hope this liberality will be extended to all monied operations.

If the commonwealth of Pennsylvania should be so wise as to repeal its usury laws, or would allow the rate of interest to be extended to eight or ten or twelve per cent. per annum, as might be agreed upon by the contracting parties, and the States of Massachusetts, New York, Maryland and Virginia should be so unwise as to keep up their present rates, (viz. in New York seven per cent. per annum, whilst in the other three States it is six per cent. per annum,) capital would flow into Philadelphia from Boston, New York, Baltimore, and Richmond, in the same way, as Baltimore and Philadelphia capital has been transmitted to New York, (to the knowledge of a member of this committee,) being attracted by the seven per cent. legal rate of interest of that State. Thus Pennsylvania enterprise would be fostered at the expense of her less clear-sighted and prudent neighbors.

Innumerable other suggestions might be urged in favor of the abolition of a law, which is a disgrace to the enlightened age in which we live, inasmuch as it is constantly infringed, and is entirely nugatory in accomplishing the object for which it was designed; but, on the contrary, produces the evil it was intended to remedy.'

EFFECT OF CLIMATE ON ANIMALS. The peculiar effect which some climates produce on organized bodies, particularly animals, is very singular. In Syria, the cats, rabbits, and goats, have extraordinarily long white hair; in Corsica, the horses, and dogs, are spotted in a peculiar manner. In Guinea, the men, dogs, and fowls, become negroes, in their different ways.

ORANG-OUTANG. (*Satyrus.*)

Campen has proved by dissection, that it is not capable either of speech, or of walking naturally in an upright position. It is not numerous; while the number of the human species, amounting to about a thousand millions, is the largest among mamiferous animals.

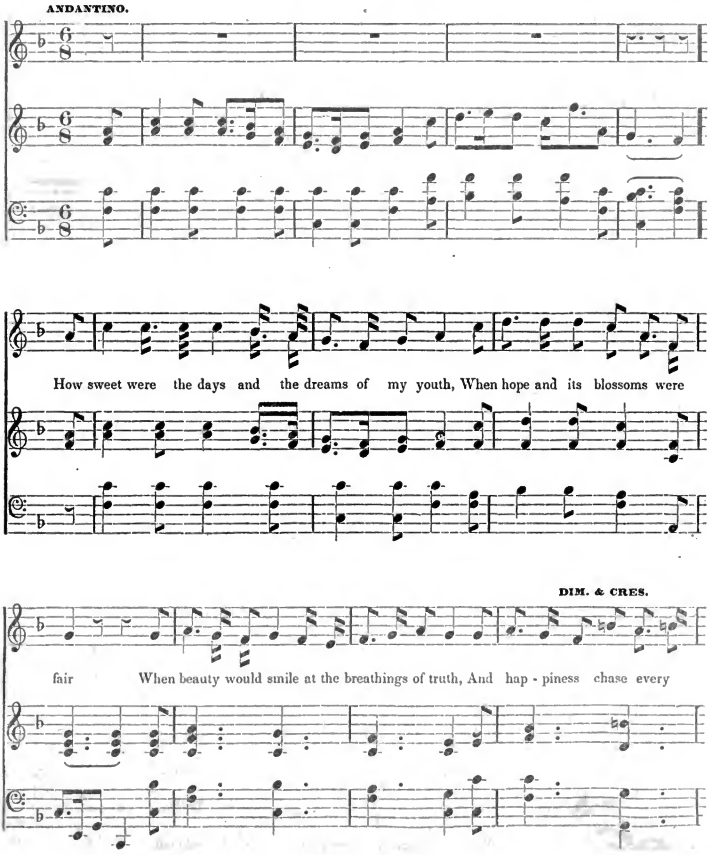
'SHE THOUGHT I WOULD TELL.'

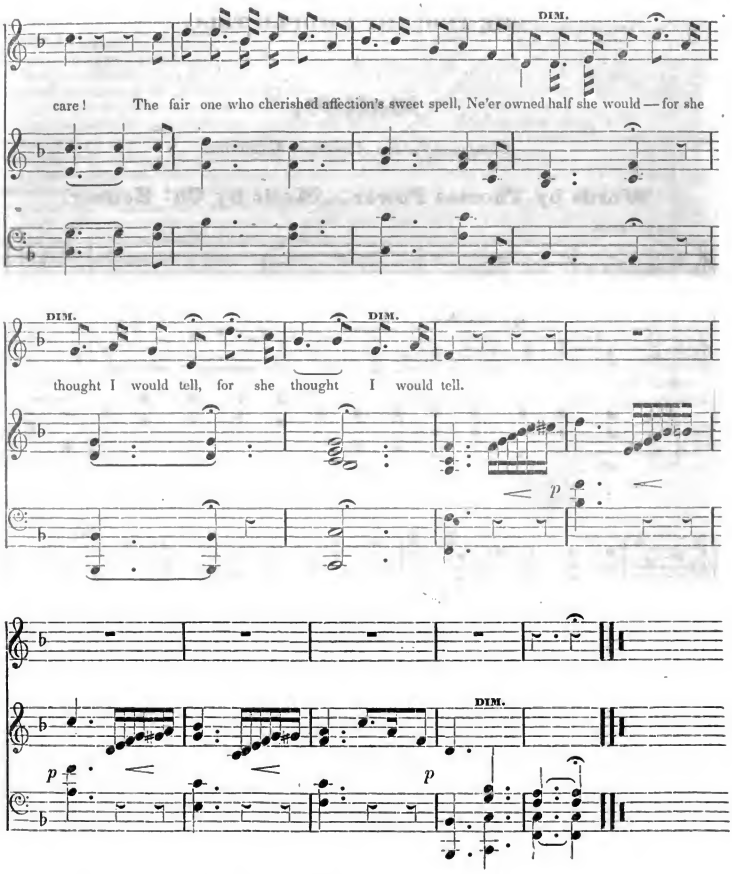
A

Ballad.

Composed for the American Magazine.

Words by Thomas Power.....Music by Ch: Zeuner.

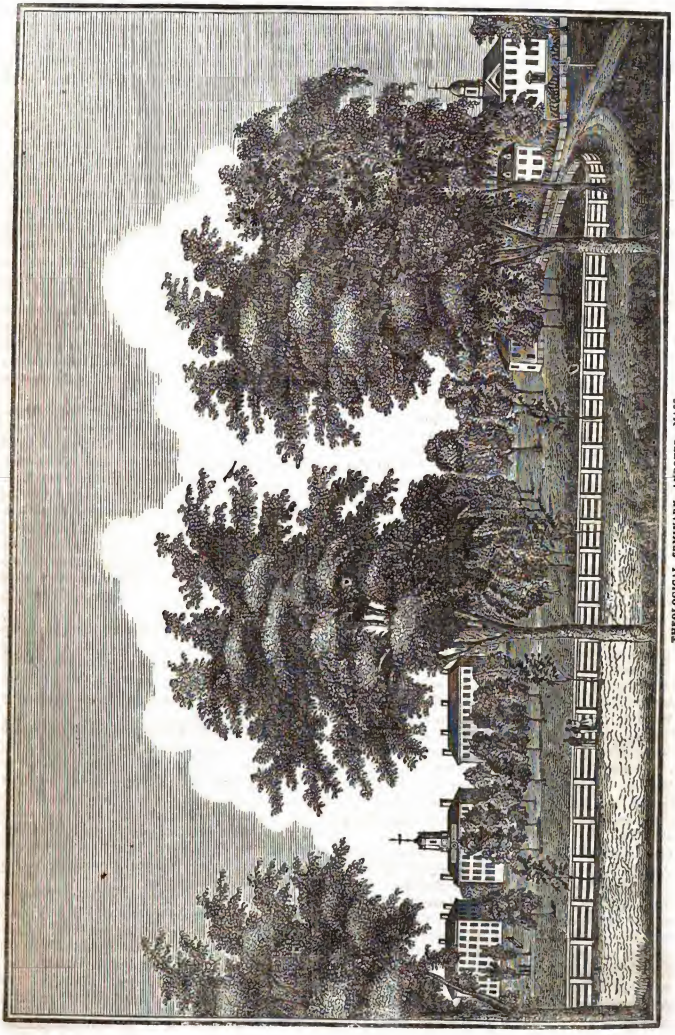




2 Who envies the bliss of a passionless heart,
That bends not at love's gentle throne,
Be his all the joy such a soul can impart,
For fate never made it my own;
Whenever at parting she whispered farewell,
Her lips would do more — but she thought I would tell.

3 The days have long passed and the dream is now o'er,
But memory retraces each scene;
Give back the sweet dream, and I'll ask for no more,
To render life's path always green;
The love of the maiden I treasured so well
Was never betrayed — though she thought I would tell.

APRIL.



THEOLOGICAL SEMINARY, ANDOVER, MASS.

THEOLOGICAL SEMINARY, ANDOVER, MASS.

Andover, the seat of the Institution, named at the head of this article, has long been distinguished for its excellent seminaries of education. The academy, known by the name of Phillips academy, and which is represented in the engraving on the preceding page, is one of the oldest incorporated and most liberally endowed institutions of the kind in the country. If not the oldest it was the second incorporated academy in the United States, and was founded on the 21st of April, 1778, by the Hon. Samuel Phillips of Andover, and his brother, the Hon. Joshua Phillips of Exeter, sons of Rev. Samuel Phillips of Andover. Twelve trustees were chosen by the founders, and to them were intrusted the funds of the academy; consisting originally of about three hundred acres of land, with the buildings thereon, situated, a part in Andover, and a part in Jeffrey, N. H. with upwards of five thousand dollars in money. The income of this property must 'forever be appropriated to the support of a free public school in the South Parish of Andover.' The trustees held their first meeting and became organized on the 28th of April, and the school was opened on the 30th of the same month, 1778; under the direction of Mr. Eliphalet Peirson, as principal, and Joseph Motley as assistant. The academy was incorporated in October, 1780. For the first five or six years the exercises of the school were held in a small wooden building, having accommodations for about sixty students. At the commencement of the year 1786, by the munificence of the distinguished founders, with their brother, William, of Boston, a new brick building was erected and occupied. The first floor of this building contained seats for one hundred scholars, besides two other rooms for the library, museum, and recitation rooms. On the second floor there was a larger hall for the purposes of exhibitions, &c. This building was destroyed by fire in 1818, and in the following year was replaced by an elegant brick building, eighty feet long, and forty wide, and two stories in height, from subscriptions collected mainly by Mr. John Adams, who was then its Principal.

The sum of $30,000 was placed in the hands of the trustees by Hon. Samuel Phillips for the support of a Principal, and an equal sum by Hon. John Phillips for the education of young men of talent and piety, who have in view the Christian ministry. For the same noble design $4,000 was bequeathed by the Hon. William Phillips of Boston.

The Teacher's Seminary, under the same board of trustees, had its origin in a legacy of $15,000 from the late Lieut. Gov. William Phillips. It is situated in the vicinity of the academy, and is at present in successful operation. The design of the institution was declared to be the promotion of true piety and virtue, and instruction in the various elementary and classical branches of science. Although one of our oldest incorporated institutions, it has numbered among its Principals only five gentlemen. A wholesome rebuke to the fickle management of most of our classical seminaries. The number of students at both these seminaries varies from 200 to 250.

The Theological Seminary, situated in the neighborhood of the academy, bears further proof to the liberality of the founders of that institution. In 1807 the Legislature of Massachusetts granted to the trustees of the academy the right of holding donations for a theological institution, free of taxes; having expressly in view the education of young men for the Christian ministry. Means for this purpose were first received from Mrs. Phebe Phillips, the widow of the Hon. John Phillips, the son of the late Lieut. Gov. Samuel Phillips, from whom one of the halls for the accommodation of students receives its name. About the same time a donation of $20,000 was received from Samuel Abbot, Esq. of Andover, for the support of a professorship, which bears his name, and for the assistance of indigent students. In 1808 Moses Brown, Esq. Hon. William Bartlett, of Newburyport, and Hon. John Norris, of Salem, contributed to the amount of $50,000 for the same purpose. Besides these donations, the sum of $30,000 has been contributed by Mr. Brown for the support of a Professor of Ecclesiastical History. The President is at present supported by the liberality of Mr. Bartlett, who has given encouragement that further donations may be expected from him.

The buildings connected with the Institution, are dwelling houses for each of the professors; a steward's house and dining hall; Phillips hall, built in 1818, of brick, ninety feet by forty, four stories, containing thirty-two rooms for students; Bartlett chapel, ninety-four feet by forty, containing a chapel, library, and three lecture rooms; and Bartlett hall, an elegant brick building, 104 feet by 40, completely furnished, and presented by Mr. Bartlett in 1821. Besides these, there has lately been erected a workshop, furnishing to the students a wholesome exercise, and, at the same time, means for defraying a part of their expenses.

The library contains from seven to eight thousand volumes, selected with reference to a theological course of studies, and is the largest and best selected theological library in the country. The Institution was opened in 1808, and is intended for protestants of all denominations.

The requisites for admission, are testimonials of talents, a collegiate education, or equivalent acquisitions, good character and deportment, personal piety, connexion with some church, and a subscription to a declaration of a belief in the Christian religion. Candidates are also examined in relation to their personal piety; and, if graduates, in the learned languages; if not graduates, also in mathematics, logic, rhetoric, astronomy, and natural and moral philosophy.

The anniversary is held on the first Wednesday in September; succeeding to which is a vacation of seven weeks; the only other vacation is from the Wednesday preceding the last Wednesday in April. The regular time for admission is during the first week of the academical year. From the charity funds of the Institution about half the regular price of board in commons is allowed to indigent worthy students. No charge is made for instruction, and barely sufficient to keep the rooms and buildings in repair is made for room rent. Resident licentiates

have admission to the instruction of the officers and the library of the institution.

The present Faculty consists of Rev. Justin Edwards, *President*. Rev. Leonard Woods, *Abbot Professor of Christian Theology*. Rev. Moses Stuart, *Associate Professor of Sacred Literature*. Rev. Ralph Emerson, *Brown Professor of Ecclesiastical History, and Lecturer on Pastoral Theology*. Rev. Edwards A. Park, *Bartlett Professor of Sacred Rhetoric*.

W. A. Taylor, is assistant teacher of Hebrew, and Lowell Mason, instructer in music.

Instruction is given in these and other branches of theology, and courses of lectures to the classes separately by each of the professors. The whole number of graduates is 711, of whom about 630 are living. The catalogue for 1836 gives 132 as the whole number now at the institution, including eight resident licentiates. The buildings connected both with the academy and the seminary are situated upon an elevated rise of land in the south parish of Andover, commanding an extensive prospect, and affording the advantages of a pure and invigorating atmosphere.

MRS. HANNAH MORE.

Hannah More was the youngest but one of five daughters of Jacob More, a schoolmaster of Stapleton, in the county of Gloucester in England; and was born in 1745. Her father was descended from a family of some note, in another part of the country, had been intended for the church, had received a classical education with that expectation, but in consequence of an unfavorable termination of a law-suit had changed his views. He married a farmer's daughter of plain education, but endowed, like himself, with a vigorous intellect, and the success which attended his children has been attributed in part, and probably with justice, to the soundness of her judgment and discretion in their culture and education.

Mr. More himself was attached to the political party of the tories and to the principles of those who are sometimes designated as high-churchmen, but the other members of the family were dissenters.

The subject of our memoir manifested indications of great quickness of apprehension and retentiveness of memory in her early childhood. Her attention to the instructions given by her mother to her elder sisters, had enabled her to make considerable progress in learning to read, before her mother thought it time to commence with her. Her nurse had been employed in the family of Dryden, and was frequently importuned by her for stories about the poet.

Her father related to her while sitting on his knee, the most striking events of Greek and Roman history, and recited from memory the speeches of his favorite heroes, first, for her amusement, in their original language, and then translated them into English, dwelling particularly on the parallels and wise sayings of Plutarch. Her acquaintance with the Latin classics, begun under her father's instruction, she carefully cultivated in after life. Some knowledge of mathematics, which she acquired by his assistance, she considered to have been of sensible advantage to her, during her whole literary course. Her father was much afraid of female pedantry, and consented to her engaging in new studies, only when overcome by the importunities of his daughter and her mother, who, though of moderate education herself, was as anxious for the improvement of this promising daughter, as her father was fearful of its consequences.

Her older sisters, having pursued a preparatory course of instruction, opened a boarding school in Bristol, which was attended with great success, and the eldest took Hannah, then about twelve years old, under her care to give her the benefit of instruction by masters of the modern languages.

The reading of the Spectator at this time was one means of improving her taste. At the age of sixteen a course of lectures on eloquence by the elder Sheridan, awakened her enthusiasm so much that she gave utterance to her feelings in verse, a copy of which induced him to seek an acquaintance with her. This led him to express his admiration of her dawning genius. Such at this time was the entertainment afforded by her conversation, that on one occasion, her physician forgot his errand respecting her health. An acquaintance with Ferguson, the astronomer, then delivering lectures on the most sublime of the natural sciences, soon ripened into friendship, and was of decided advantage to both of them. She also derived advantage from the critical acumen of a linen-draper by the name of Peach, who had been the friend of Hume, and had at his request corrected his History of England.

Her first publication was her 'Search after Happiness.' At the age of twenty, having access to the best libraries in the neighborhood, she cultivated with assiduity, a knowledge of the Latin, Italian and Spanish languages, polishing her style in translations and imitations, especially of the odes of Horace, and some of the dramatic compositions of Metastasio. These effusions of her pen were only shown to her literary friends, and were never pub-

lished. At the age of twenty-two she received the addresses of a man of fortune and education, whose name was Turner; and the day of marriage was more than once fixed upon, but was postponed at his request. This course displeased her friends, and their interference and some other considerations not made public, produced a relinquishment of the expectations they had formed respecting each other, by an amicable agreement. His offer to settle an annuity upon her, at first rejected with firmness and dignity, afterwards carried into effect by a friend, without her knowledge, consenting to act as trustee, and by her reluctant consent to accept a part of what was offered, sometime afterward obtained through the importunity of her friends, manifested a desire on his part to preserve his integrity. These circumstances seem to have been entirely unknown to the public during her life. She did not pass through these incidents without emotion. In one of her dramas, *Emelina*, disappointed in her affections, says,

> I've been a weak, a fond believing woman,
> And credulous beyond my sex's softness,
> But with the weakness, I've the pride of woman.
> I loved with virtue, but I fondly loved,
> That passion fixed my fate, determined all,
> And marked at once the color of my life;
> Hearts that love well, love long; they love but once.

How far her Emelina expressed her own feelings, it is not for us to decide. She resolved to avoid a second engagement. Her firmness was tried, her suitor could obtain only her friendship.

Some time after these events she visited London, and was received with open arms by the literati, who composed the galaxy of intellect which shone at that time with uncommon splendor. Among her friends and associates, were Garrick, the Roscius of the English stage, Dr. Johnson, the Lexicographer, Sir Joshua Reynolds, the painter, Mrs. Carter, the translator of Epictetus, and a poetess, Mrs. Elizabeth Montague, authoress of an essay on the life and writings of Shakspeare, Edmund Burke, author of an essay on the 'Sublime and beautiful,' Mrs. Chapone, authoress of 'Letters on the improvement of the Mind,' Porteus, bishop of Chester, afterwards of London, Mrs. Barbauld, Mrs. Boscawen, Mrs. Vesey, the sprightly and playful Horace Walpole, Sir W. W. Pepys, Sir William Jones, the oriental scholar, William Wilberforce, the friend of the abolition of the slave-trade, and a great number of others, many of whom were then or afterwards highly distinguished. The account of her life, which has been published by William Roberts, consists almost entirely of letters of correspondence between herself and her friends. To persons who can afford the time to read them, they are exceedingly interesting; for in the perusal of them we seem to be transported to the time and place of those ancient worthies, and to mingle without reserve in their society.

Garrick called her '*the nine*,' to intimate that she had every literary grace in perfection. She published 'The Inflexible Captive,' a tragedy founded on the story of Regulus, 'Sir Eldred of the Bower,' and 'the Bleeding Rock,' two poetical tales, in 1774, 'Essays designed for young ladies,' 'Ode to Dragon, Mr. Garrick's house dog,' 'Percy,' and 'The Fatal Falsehood,' tragedies, in 1777, and 1778. In these publications she appears to have sought to gratify her literary taste, and perhaps to gain a name to go down with others to posterity. It was not till after the death of Garrick that she was thoroughly converted to the doctrines taught by her own Urania in her 'Search after Happiness.'

In 1785, she became possessed of a secluded little spot near Bristol, called 'Cowslip Green,' where she delighted in cultivating her garden as well as her muse. She had written tragedies—they had succeeded,—but when she turned her thoughts more seriously to heaven, and devoted her talents and her pen to the improvement of morals and religion, she renounced the fashionable world, and plainly expressed her opinion that the stage should not be frequented by Christians. Her 'Sacred Dramas' published in 1782, were mere poems in the form of dialogues, and were not intended for the stage. Several other poems, tales and essays, and among them 'The Shepherd of Salisbury Plain,' were published between 1785 and 1789, her 'Estimate of the religion of the fashionable world' in 1791, also 'Strictures on the modern system of Female Education.'

She published 'Hints for a Princess,' which was much praised, in 1805, 'Cœlebs in search of a wife,' a work of fiction, so far as the incidents are concerned, but of great excellence from the circumstance that she has embodied in her Lucilla the excellencies of the female character, which shone most conspicuously in herself. Her 'Practical Piety,' an excellent work, and 'Christian Morals,' were published in 1812, and 'An Essay on the character and writings of St. Paul,' in 1815.

She and her sisters undertook to dissipate some portion of the very gross ignorance of the peasantry in the vicinity of their country residence, by the establishment of Sunday charity schools, and met with great success; though they encountered much opposition from persons incapable of understanding their objects or their plan.

In 1802 she removed her country residence from Cowslip Green, to Barley Wood, about a mile distant.

Her health from childhood was infirm and interrupted with long intervals of pain. In 1828, her confidence being abused by her servants, she disposed of Barley Wood and removed to Windsor Terrace in Clifton, saying at her departure, 'I am driven like Eve out of Paradise, but not like Eve, by angels.' Her death at Clifton, on the seventh of December, 1832, in the 88th year of her age, was that of a Christian, exemplary, instructive, peaceful and happy.

Her religion was characterised in her own words thus; 'Christianity is a broad basis. *Bible* Christianity is what I love; that does not insist on opinions indifferent in themselves,—a Christianity practical and pure, which teaches holiness and humility, repentance and faith in Christ, and which, after summing up all the evangelical graces declares the greatest of these is Charity.' Her works—they enlighten the mind—and purify the heart,—read them,—young ladies and gentlemen, read them.

THE AMERICAN ANTELOPE.

This animal was found by Lewis and Clarke in their journey to Columbia river. His home is the Rocky mountains.

In animals of this kind the body, ears, eyes, and the sinuses below the eyes, are very similar to those of the deer. The limbs also very much resemble those of the deer, except that some species of the antelope have tufts or brushes of long hair hanging from the carpus. The outline of the front is nearly straight and terminates in a muzzle or half muzzle; though in some species this is absent. The teats are two or four in number, being sometimes two in the males and four in the females. The gall bladder is never wanting, and this circumstance constitutes a remarkable distinction between this genus of animals and the deer.

The horns of both sexes are placed in a bony process of the forehead. In some species the female is destitute of horns. In the American species the horns are short, black, roundish, tapering, arched inward, turning toward each other, with their points directed backward, each horn having a single short branchlet, projecting from the middle.

The winter coat consists of coarse, round, hollow hair, like that of the moose. The neck, back, and legs are of a yellowish brown. The hair on the back part of the head and neck is long, tipped with black, and forms a short erect mane. There is a black spot behind each cheek from which there is exhaled an odor similar to that of the goat. The sides are reddish white; the belly and chest are white with the exception of three black bands across the throat. On the rump there is a large spot of pure white. The dimensions of the male animal are as follows; from the nose to the root of the tail about four feet, height three feet, girth behind the fore legs three feet. The female is smaller than the male, and has straighter horns with a protuberance rather than a branch. She is also deficient in the black spot on the neck.

The American antelope is so shy and timorous that travellers say he seldom reposes, unless on the peak of some mountain which commands a view of the surrounding country. There the pure air is a pledge for its safety; for such is the exquisite delicacy of his smell, that the least taint will inform him of the approach of his enemy. When once the danger is perceived, he passes over the ground to his place of safety so swiftly, that his passage seems more like the flight of a bird than the movement of an animal on the ground.

In one instance, Captain Lewis, after several fruitless attempts to surprise a party by winding round the ridges, at length approached them, but unfortunately on the windward side. Before they saw him they became alarmed by the scent, and fled while he was at a distance of two hundred yards. He immediately ran to the spot where they had stood; a ravine concealed them from him, but a moment after they appeared on the opposite ridge at the distance, according to his estimate, of three miles. He doubted at first if they were the same; but their number and continued speed convinced him that they were so, and he inferred that they must have passed the intervening distance with a celerity equal to that of the most celebrated race horse.

'The chief game of the Shoshonees,' say Lewis and Clark, 'is the antelope; which, when pursued, retreats to the open plains, where the horses have full room for the chase. But such is its extraordinary fleetness and wind, that a single horse has no chance of outrunning it or tiring it down; and the hunters are therefore obliged to resort to stratagem.

'About twenty Indians, mounted on fine horses, armed with bow and arrows, left the camp; in a short time they descried a herd of ten antelopes; they immediately separated into parties of two or three, and formed a scattered circle round the herd for five or six miles, keeping at a wary distance so as not to alarm them, till they were perfectly enclosed, and usually selecting some commanding eminence as a stand. Having gained their positions, a small party rode towards the herd; and with wonderful dexterity the huntsman preserved his seat, and the horse his footing, as he ran at full speed over the hills, down the steep ravines, and along the borders of the precipices. They were soon outstripped by the antelopes, which, on gaining the other extremity of the circle, were driven back and pursued by the fresh hunters. They turned and flew rather than ran, in another direction; but there too they found new enemies. In this way they were alternately pursued, backwards and forwards, till at length, notwithstanding the skill of the hunters, they all escaped; and the party, after running for two hours, returned without having caught any thing, their horses foaming with sweat. This chase, the greater part of which was seen from the camp, formed a beautiful scene; but to the hunters the trial is very laborious, and so unproductive, even when they are able to worry the animal down, that forty or fifty hunters will sometimes be engaged for more than half a day without obtaining more than two or three antelopes.'

Yet notwithstanding the keenness of his senses, and the astonishing swiftness of his course, the prong-horned antelope is but a simple animal, and

his curiosity is often fatal to him. When the hunter first comes in sight, the whole speed of this swift-footed antelope is exerted; but sometimes the hunter lies down and lifts his arm, his foot, or his hat, and the animal trots back to gaze at the object, and sometimes goes and returns two or three times, until at length it comes within reach of the rifle, and his swiftness of foot becomes of no avail. It is said that the wolves make use of similar manœuvres to seize them; for sometimes one of a herd of antelopes will leave his companions to go and look at the wolves, and then, if the antelope should be frightened, crouch down, and by repeating the stratagem, and sometimes relieving one another, succeed at length in decoying it within their power, when it is pulled down and devoured. But the wolves more frequently succeed in taking the antelopes when they are crossing rivers, in consequence of their not being good swimmers.

Great numbers of these animals were seen by Lewis and Clarke in the month of October, near Carp island, in the Missouri, where large flocks of them were driven into the water by the Indians. They were then migrating from the plains east of the Missouri, where they spend the summer, toward the mountains, where they subsist on leaves and shrubbery during the winter, till they resume their migrations in the spring. On this occasion, while the antelopes were in the river, the men ranged along the shore to prevent their escape, and fired upon them; and sometimes the boys went into the river and killed them with sticks. Fifty-eight antelopes were taken by the Indians, during the time they were observed by our travellers.

LAMARTINE'S PILGRIMAGE TO THE HOLY LAND.

Alphonso De Lamartine, a Frenchman, with something more than ordinary of poetry in his mental composition, is the author of a book which is known under the above title. We might describe the character of this author which is prominent in every page of his book, and tell the inducements which led him to make a pilgrimage, or tour in the land of Judea, but we prefer to let him do it himself.

Under the date of 'Marseilles, 20th of May, 1832,' he says, 'My mother had received from her's, while on the bed of death, a beautiful copy of the bible of Royaumont, in which she taught me to read when I was a little child. This bible had engravings on sacred subjects in every page. They depicted Sarah, Tobit and his angel, Joseph and Samuel, and above all, those beautiful patriarchal scenes in which the solemn and primitive nature of the east was blended with all the arts of the simple and wonderful lives of the fathers of mankind. When I had repeated my lesson well, and read, with only a fault or two, the half page of historical matter, my mother uncovered the engraving, and, holding the book open on her lap, shewed and explained it to me as my recompense.

She was endowed by nature with a mind as pious as it was tender, and with the most sensitive and vivid imagination; all her thoughts were sentiments, and every sentiment was an image. Her beautiful, noble, and benign countenance, reflected in its radiant physiognomy, all that glowed in her heart, all that was painted in her thoughts; and the silvery, affectionate, and impassioned tone of her voice, added to all that was said an accent of strength, grace, and love, which still sounds in my ear, after six years absence. The sight of these engravings and explanations, and the poetical commentaries of my mother, inspired me from my most tender infancy with a taste and inclination for biblical lore.

From a love of the things themselves, to the desire of seeing the places where these things had occurred, there was but a step. I burned, therefore, from the age of eight years, with a desire of going to visit those mountains on which God had descended,—those deserts where the angel pointed out to Hagar the hidden spring, whence her banished child, dying with thirst, might derive refreshment,—those rivers which flowed from the terrestrial paradise—the spot in the firmament at which the angels were seen ascending and descending Jacob's ladder.

This desire grew with my growth, and strengthened with my strength. I was always dreaming of travelling in the east; I never ceased arranging in my mind a vast religious epopee, of which those beautiful spots should be the principal scene. It seemed to me also, that here the doubts of the mind and religious perplexities might be solved and explained. In fine, I should from hence derive the colors of my poem; for life, in my mind, was always a great poem, as in my heart it was the breath of love. God, love, and poetry, are the three words which I should wish engraved on my tomb,—if I ever merit a tomb. Thence arose the idea which impels me at present toward the shores of Asia. This brings me to Marseilles at this moment, and makes me so anxious to quit the country of my fond attachment, where I have friends who will mourn my absence, and follow me in my wanderings.'

In giving extracts from Lamartine, we do not wish to be understood to adopt every one of his sentiments or opinions. Whether the piety of his mother was by nature, or by the supervening influence of the spirit given by a new dispensation of grace, or whether, as our author intimates in another place, the Savior founded a hierarchal priesthood, when he told St. Peter that upon the sacred truth that he was the Son of God, he would build his church, are questions we have no occasion to discuss. We present the extracts to show our author's style, and the images which may still arise in a mind suited to entertain them, in the land of the ancient prophets, who were the heaven-taught poets of those early days, in the land where, as the psalmist says, 'the mountains skipped like rams, and the little hills like lambs.'

Lamartine's work is interesting, and extensively read. If he should induce his readers to look a little more attentively into their bibles, where they may find the most sublime and beautiful passages of poetic imagery in the world, and at the same time learn their duty and the way of life, it will not only please them, but be otherwise of great advantage to them.

Rumination. The general purpose of rumination, as applicable to all the animals which chew the cud, appears still unknown.

EARTHQUAKE ON THE MISSISSIPPI IN 1811.

Previous to the destruction of La Guayra and Carraccas, in 1812, South Carolina was convulsed by earthquakes; and the shocks continued till those cities were destroyed. The valley also of the Mississippi, from the village of New Madrid to the mouth of the Ohio in one direction, and to the St. Frances in another, was convulsed to such a degree as to create lakes and islands. Flint, the geographer, who visited the country seven years after the event, informs us, that a tract of many miles in extent, near the Little Prairie, became covered with water, three or four feet deep; and when the water disappeared a stratum of sand was left in its place. Large lakes of twenty miles in extent were formed in the course of an hour, and others were drained. The grave-yard at New Madrid was precipitated into the bed of the Mississippi; and it is stated that the ground whereon the town is built, and the river bank for fifteen miles above, sank eight feet below their former level. The neighboring forest presented, for some years afterwards, a singular scene of confusion; the trees standing inclined in every direction, and many having their trunks and branches broken.

The inhabitants relate that the earth rose in great undulations; and when these reached a certain fearful height, the soil burst, and vast volumes of water, sand, and pit-coal were discharged as high as the tops of the trees. Flint saw hundreds of these deep chasms remaining in an alluvial soil, seven years after. The people in the country, although inexperienced in such convulsions, had remarked that the chasms in the earth were in a direction from south-west to north-east; and they accordingly felled the tallest trees, and laying them at right angles to the chasms, stationed themselves upon them. By this invention, when chasms opened more than once under these trees, several persons were prevented from being swallowed up. At one period during this earthquake the ground, not far below New Madrid, swelled up so as to arrest the Mississippi in its course, and to cause a temporary reflux of its waves. The motion of some of the shocks was horizontal and of others perpendicular; and the vertical movement is said to have been much less desolating than the horizontal. If this be often the case, those shocks which injure cities least may produce the greatest alteration of level.

The following account from a witness of the facts which he relates, will convey a more vivid representation of the circumstances of this great convulsion than can be obtained from a general description of its effects.

Precisely at two o'clock in the morning, says Mr. Pierce, whose interesting narrative we copy, we were all alarmed by the violent and convulsive agitation of the boats, (on the Mississippi) accompanied by a noise similar to that which would have been produced by running over a sand-bar. Every man was immediately roused and rushed upon deck. We were at this time moored to the banks of the river. Ignorant, at first, of the cause of such a concussion, the idea of an earthquake at length entered my mind; and this idea was confirmed by a second shock, and two others in immediate succession. These continued for the space of eight minutes. So complete and general had been the convulsion, that a tremulous motion was communicated to the leaves on the surface of the ground. A few yards from the spot where we lay, the body of a large tree was snapped in two, and the falling part precipitated to the margin of the river. The trees in the forest shook like rushes; the alarming clattering of their branches may be compared to the effect of a severe wind passing through a canebrake.

At the dawn of the day I went on shore to examine the effects of the shocks. The earth, about twenty feet from the water's edge was deeply cracked; but no visible injury of moment had been yet sustained. Fearing, however, to remain longer where we were, it was thought most advisable to leave our landing as expeditiously as possible; this was immediately done. At a few rods distance from the shore we experienced a fifth shock, more severe than either of the preceding. I had expected this from the lowering appearance of the weather. It was, indeed, most providential that we had started; for such was the strength of this last shock that the bank, to which we were but a few minutes since attached, was rent and fell into the river; while the trees rushed from the forest, precipitating themselves into the water, with force sufficient to have dashed us into a thousand atoms.

It was now light, and we had an opportunity of beholding in full extent the horrors of our situation. During the first four shocks, tremendous and uninterrupted explosions, resembling a discharge of artillery, were heard from the opposite shore. At that time I had imputed them to the falling of the river's banks. The fifth shock explained the real cause. Wherever the veins of the earthquake ran, there was a volcanic discharge of combustible matter to great heights, an incessant rumbling was heard below, and the bed of the river was excessively agitated, while the water assumed a turbid and boiling appearance. Near our boat a spout of confined air, breaking its way through the waters, burst forth, and, with a loud report, discharged mud, sticks, &c. from the river's bed, at least thirty feet above its surface. These spoutings were frequent, and in many places appeared to rise to the very heavens. Large trees, that had lain for ages, at the bottom of the river, were shot up, in thousands of instances, some with their roots uppermost and their tops planted; others were hurled into the air; many again were only loosened, and floated upon the surface.

Never was a scene more replete with terrific threatenings of death. Here, the earth, river, &c. torn with furious convulsions, opened in huge trenches, whose deep jaws were instantaneously closed; there, through a thousand vents sulphureous streams gushed from its very bowels, leaving vast and almost unfathomable caverns. Everywhere nature itself seemed tottering on the very verge of dissolution.

During the day there was, with little intermission, a continued series of shocks, attended with innumerable explosions, like the rolling of thunder. The bed of the river was incessantly disturbed, and

the water boiled in every part. Our ears were incessantly annoyed by the sound of falling timber on the banks, which were crushed down and fell with their weight of growth into the river.

It was no less astonishing than alarming, to behold the oldest trees of the forest, whose firm roots had withstood a thousand storms, and weathered the sternest tempests, quivering and shaking with the violence of the shocks, while their heads were whipped together with quick and rapid motion.

Many small islands have been already annihilated, and from appearances many more must suffer the same fate. To one of these I ventured in a skiff; but it was impossible to examine it, for the ground sunk from my tread, and the least force applied to any part of it seemed to shake the whole.

On Wednesday afternoon I visited an island which was extensive, and partially covered with willows. The earthquake had rent the ground in large and numerous gaps; vast quantities of burnt wood in every stage of alteration, from its primitive nature, to stone coal, had been spread over the ground to very considerable distances; frightful and hideous caverns yawned on every side; and the earth's bowels appeared to have felt the tremendous force of the shocks which had thus riven its surface. I was gratified with seeing several places where those spouts, which had so much attracted our wonder and admiration had arisen.

They were generally on the bend, and had large circular holes in the sand, formed much like a funnel.

WILD PIGEONS.

In a former number (volume second, page 47,) we have given a short notice of the common wild pigeon. The following account of the numerous flocks of these birds, and the immense numbers in each, together with their appearance at their resting places, may astonish some of our readers. Some, perhaps, will disbelieve the truth of the representation. Respecting this we can only say, we dare not to acknowledge a disbelief in any thing which rests on the veracity of an ornithologist like him whose report we give below.

Mr. Audubon, in his Ornithological Biography, gives a curious and interesting account of the flight of these birds. He says that in passing over the barrens, a few miles from Hardensburgh, he observed the pigeons flying from north-east to south-west, in greater numbers than he had ever seen them before; and feeling an inclination to count the flocks that might pass within the reach of his eye in one hour, he seated himself on an eminence, and began to mark with his pencil, making a dot for every flock that passed. In a short time finding the task impracticable, as the birds poured in in countless multitudes, he rose, and counting the dots already put down, found that one hundred and sixty-three had been made in twenty-one minutes. He then travelled on, and still met more as he proceeded. The air was literally filled with pigeons; the light of noon-day was obscured as by an eclipse, the dung fell in spots not unlike melting flakes of snow, and the continued buzz of wings had a tendency to lull his senses to repose. Whilst waiting for his dinner, immense legions were still going by, and on Mr. Audubon's arrival before sunset at Louisville, distant from Hardensburgh fifty-five miles, the pigeons were still passing in undiminished numbers, and continued to do so for three days in succession.

Mr. Audubon makes the following curious estimate of the number of pigeons contained in *one only* of these mighty flocks. Taking a column of one mile in breadth, which he thinks is far below the average size, and supposing it to pass over without interruption for three hours, at the rate of one mile in a minute, it will give us a parallelogram of one hundred and eighty miles by one, covering one hundred and eighty square miles. Allowing two pigeons to the square yard, we have one billion, one hundred and fifteen millions, one hundred and thirty-six thousand pigeons in one flock. As each pigeon daily consumes fully half a pint of food, the quantity necessary for supplying this vast multitude must be eight millions, seven hundred and twelve thousand bushels a day. Nor is the account of their roosting places less curious. One of them on the banks of the Green river in Kentucky was repeatedly visited by Mr. Audubon. It was in a portion of the forest where the trees were of great magnitude, and where there was little underwood, and the average breadth was about three miles. On arriving there about two hours before sunset, few pigeons were to be seen. A great number of persons, however, with horses and waggons, guns and ammunition, had already established themselves on the borders. Two farmers had driven upwards of three hundred hogs from their residence, more than a hundred miles distant, to be fattened on the pigeons which were to be slaughtered. The sun had set, yet not a pigeon had arrived. Everything, however, was ready, and all eyes were gazing on the clear sky, which appeared in glimpses amidst the tall trees. Suddenly there burst forth a general cry of 'here they come!' The noise which they made, though yet distant, is described as like a hard gale at sea passing through the rigging of a close-reefed vessel. As the birds arrived, they were knocked down by thousands by the pole-men. As they continued to pour in, the fires were lighted, and a magnificent, as well as wonderful sight presented itself. The pigeons, arriving by myriads, alighted everywhere, one above another, until solid masses; as large as hogsheads, were formed on the branches all round. Here and there the perches gave way under the weight, with a crash, and falling to the ground, destroyed hundreds of the birds beneath, forcing down the dense groups with which every stick was loaded. The pigeons kept constantly coming, and it was past midnight before a decrease in the number of those that arrived could be perceived. The noise made was so great, that it was distinctly heard at three miles from the spot. Towards the approach of day, the noise in some measure subsided, and long before objects were distinguishable, the pigeons began to move off in a direction quite different from that in which they had arrived the evening before, and at sunrise all that were able to fly had disappeared.

Monument to Wolfe and Montcalm.

CAPTURE OF QUEBEC IN 1759.

In 1753, the extensive country between the Alleghany mountains and the Mississippi, was claimed both by France and England. Both parties deeming the possession of the disputed territory important to the maintenance of their power in America, determined to establish their claims by force. The first expedition, in prosecution of this design, was that against Fort du Quesne, under General Braddock, in 1755, which resulted in a total defeat. The campaign of 1757, was also unfavorable to the English, they having lost Fort William Henry, and Oswego, with the command of the lakes. In the campaign of 1758, the English were more successful. Fort du Quesne, Ticonderoga, Crown Point, and Louisbourg, successively surrendered. In 1759, Niagara having been taken, the principal places remaining in possession of the French were Montreal and Quebec. Early in this year, an expedition consisting of eight thousand men under the command of General Wolfe, and convoy of admirals Saunders and Holmes, was directed against Quebec. The same Marquis de Montcalm, who, when strong enough to act offensively, had rapidly carried Oswego and Fort William Henry, and who, being reduced to the defensive, had driven General Abercrombie with much slaughter from the walls of Ticonderoga, was at the head of the French army which covered Quebec, and was an antagonist in all respects equal to Wolfe.

Quebec stands on the north side of the Saint Lawrence, and on the west of the river Saint Charles, which empties into the former immediately below the town. East of the Saint Charles, and between that and the Montmorenci, was the French camp, strongly entrenched. The city consists of the lower town, built upon the strand which stretches along between the St. Lawrence and the base of a precipitous and lofty rock, and of the upper town situated on the summit of the rock. This rock continues with a bold and steep front far to the west of the city, parallel to, and near the river Saint Lawrence. After several unsuccessful attempts to withdraw the French commander from his strong position, Wolfe attacked him on the eastern side of his entrenchments near the Montmorenci, but was repulsed. A plan for the destruction of the French ships also entirely failed, the shipping being protected by the guns of the fortifications. The works of the upper town were less secure on the land side, north and west, than toward the water, but were protected in a great measure by the difficulty of access to any tenable position. But the only remaining hope of success depended on gaining the heights. The troops being embarked, made demonstrations of landing at several places above the one where it was intended to make a real attempt. A detachment of fifteen hundred men under De Bouganville, had been sent up the river to prevent it. Under cover of the night, General Wolfe, with a strong detachment in flat bottomed boats, fell down the river with the tide to the place fixed on for a landing.

This was effected with some difficulty, but with perfect secrecy, Wolfe himself being the first man to leap on shore. The heights of Abraham, as the

position was called, were to be ascended by a narrow path, which was defended by a four gun battery. The landing was below the point intended, but by the assistance of the rugged projections of the rock, and the branches of trees and shrubs growing on the cliffs, they made their way to the summit, and very quickly dispersed the guard, which made less resistance than was expected, from their advantageous position. Montcalm was soon informed of the English having gained the heights, and perceived that a battle could no longer be avoided, and that the fate of Quebec depended on its issue. Leaving his camp between the St. Charles and the Montmorenci, he crossed the former and marched to attack the English. His centre consisted of a column of European troops with two small field pieces, his wings of about equal numbers of European and colonial troops. Wolfe, observing this movement made dispositions to meet him.

Montcalm had taken his post on the left of his army, and Wolfe on the right of the British, so that the two generals met each other at the head of their respective forces. Some Canadian militia and Indians in front, commenced an irregular fire upon the English, which they disregarded, reserving their fire for the main columns, and when at the distance of forty yards it was given with great effect. It was kept up with spirit for some time, when Wolfe, advancing at the head of some chosen troops, with charged bayonets, received a mortal wound. Undismayed by the loss of their general, the English continued their exertions under General Moncton, who succeeded, but he also received a wound from a ball which is said to have passed through his lungs, and the command devolved on General Townshend. About the same time, Montcalm received a mortal wound, and General Senezergus, the second in command, also fell. The left wing and centre of the French forces beginning to give way, were driven, by the English bayonets and the highland broad-swords, partly across the St. Charles and partly into the city. On the left, the English infantry had been placed in houses, and the attack by the French with the view of turning their flank, was frustrated, by a movement of some fresh troops against them at the moment when they had been thrown into some disorder by the sally of the infantry from the houses. When General Townshend succeeded to the command of the English forces, they were in some disorder, occasioned by the ardor of pursuit, and were scarcely restored when De Bouganville appeared with his detachment in the rear, having hastened from his position up the river, immediately on hearing that the English had gained the heights of Abraham. He was, however, too late to retrieve the fortune of the day.

The first and second wound which Gen. Wolfe received in this action, though extremely painful, had been disregarded. The fatal ball penetrated his breast, still it was with reluctance that he permitted himself to be conveyed to the rear, where, careless about himself, he discovered, in the agonies of death, the most anxious solicitude concerning the fate of the day. Being told that the enemy were visibly broken, he reclined his head, from extreme faintness, on the arm of an officer standing near him, but was soon aroused, with the distant cry, 'they fly, they fly;' 'who fly?' anxiously inquired the dying man. On being answered 'the French,' 'then' said he, 'I depart content;' and almost immediately expired, in the moment of victory.

With less success, but not less courage or less estimation expired the equally gallant Montcalm. The same fearlessness of death, and the same desire of honorable distinction which marked the British leader, were not less conspicuous in the conduct of his competitor for victory and fame. He was told that his wound was mortal—victory was already beyond his expectations,—and that he could survive but a few hours. 'So much the better,' he replied, 'then I shall not live to see the surrender of Quebec.'

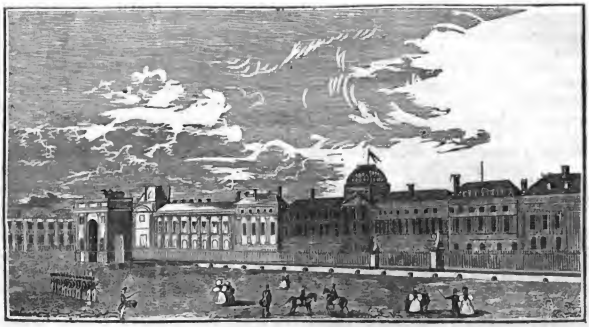
The numbers engaged in the action were probably nearly equal, but the British forces were all well disciplined, while nearly half the French forces were militia and Indians. Quebec surrendered in a few days after, and the next year, notwithstanding some vigorous attempts of the French to retake Quebec, and recover what they had lost, the surrender of Montreal terminated the power and influence of the French on the western continent, except when it was manifested in alliance with the United States, in the war of the Revolution.

A monument erected at Quebec, in commemoration both of Wolfe and Montcalm, in 1827, stands in a conspicuous position, on the north side of *rue des Carrieres*, occupying a recess made for its reception within the line of the upper Chateau Garden. It consists of a solid rectangular column, built of grey stone, and gradually tapering from its basement to the cap, which terminates in an apex. The total altitude of the monument is sixty-five feet, of which height twenty feet, three inches, are taken up with the various gradations of the basement.

The fund for its erection was collected by general subscriptions, in which most of the citizens readily joined, thus to commemorate an event that at once deprived the conquering and conquered hosts of their valiant but ill-fated leaders. The following is the English translation of the inscription.

'Valor bestowed a common death, history fame, posterity a monument. This column, in memory of the illustrious heroes, Wolfe and Montcalm, was erected by George, Earl of Dalhousie, Governor of the British dominions in North America. The work was omitted for many years; for a distinguished officer what more proper? He promoted it by his authority, stimulated it by his example, and assisted by his munificence. A. D. 1827, George IV. King of Great Britain.'

When the leaders of armies manifest uncommon ability, or courage, we know of no rule by which they should be denied the honors, which justly belong to them. But still, in our opinion, the man who, by the exercise of civil virtues, prevents a war, is worthy of a more enduring memorial than the military hero, who obtains success in arms, by means of physical force, however skilfully it may be directed.



The Tuileries, in Paris.

THE TUILERIES.

This is the name of one of the most magnificent palaces in Paris. It is supposed that bricks, or tiles, were formerly made on the spot now occupied by this edifice; and hence the name, which signifies a place for making tiles, or in other words a *brick-kiln.* It is on the right bank of the Seine.

The duchess d'Angouleme, mother of Francis I. who occupied the palace of the *Tournelles,* having found the air unfavorable, removed and took lodgings at the seat of Nicholas de Neuville, secretary of the treasury. His house occupied nearly the site of the present palace of the Tuileries. The king acquired the property, and Catharine de Medicis, wife of Henry II. determined to occupy it with a palace. The edifice was built by Henry IV. who, in 1600, commenced the splendid gallery, by which it is connected with the Louvre. It was occupied by the court of Louis XIV. till he took possession of the house at Versailles. It was inhabited by Louis XVI. from the year 1791 till the time of his imprisonment. The national convention and the council of the ancients held their sessions here, and it was afterward the residence of Bonaparte.

The exterior of the Tuileries is deficient in harmony, having been built at different times, and on different plans, but the interior is very magnificent. On the west side of the palace is the garden of the Tuileries, forming a quadrangle of the width of the palace, and 1800 feet in length, containing about fifty-four acres; being a little larger than the common at Boston. On two sides it is enclosed by long terraces and iron railings. From the side next the Seine there is a beautiful prospect.

The gardens were laid out by designs of the celebrated Lenotre, and may perhaps be considered the most beautiful and regular in Europe. It was finished in 1664. It has been highly ornamented in modern times. It contains alleys bordered with orange and other trees, groves, lawns with beds of flowers, shrubberies, fountains and basins of water, with swans and gold-fish, a great number of vases, and more than sixty statues, imitated from ancient works of art. A statue of Napoleon, which formerly ornamented the gardens, was removed on the restoration of the Bourbons, but since the revolution of 1830 it has been restored. There is here also an obelisk from Egypt; which may serve as a useful memento, that nations once great are not so always.

The garden is filled at all hours of the day with persons of all ranks; chairs and newspapers may be had for a small price.

TO MARY.

Oh, thou canst paint the lively hues
  That tinge the new blown rose;
The landscape which thy fancy views,
  Next hour unfading glows.

Then paint me, beautiful and fair,
  In tints of softened light,
As evening comes with balmy air,
  A gilded mountain height.

And paint me, near its sloping base,
  A gently flowing stream;
And let a lawn the distance grace,
  From which its waters gleam.

But leave me still a little room
  Between the river and the hill;
There let a lovely garden bloom,
  Where birds their lays may trill.

And paint a cottage, half conceal'd
  By close embow'ring shade;
But let a window be reveal'd,
  And there an infant maid.

Beneath an elm the master trace,
  And near a smiling boy;
Just in the door the mistress place,
  Her eye lit up with joy.

And on her lip affection's smile
  Must rest, as if its art
Might life's most anxious cares beguile,
  And heavenly peace impart.

Dost ask me who the owners are?
  Oh, Mary, if thou wilt agree,
The hope of such a home to share,
  Paint then yourself and me. G.

Ancient Christian Church, erected A. D. 364.

JOVIAN.

The family of Constantine terminated with the death of his nephew, Julian the apostate. Constantine himself had done every thing in his power for the promotion of Christianity, but Julian, after having been instructed by Eusebius, bishop of Nicomedia, and even after having taken orders in the church, and read the scriptures publicly to the people, renounced Christianity and embraced the doctrines of the Egyptian mythology. After this he exerted himself to extinguish Christianity. His successor, however, immediately repaired the injuries he had inflicted. Jovian was born in Pannonia, in 331. He was with Julian's army at the time of his defeat and death, after which, with great prudence and good management, he extricated it from its perilous situation. For this service he was declared emperor. As he had been educated in the principles of Christianity, he firmly adhered to its doctrines, and on his march to Constantinople displayed the labarum, (which Julian had laid aside and prohibited,) made a public profession of his faith, and enforced it on his subjects; allowing, however, a certain toleration to those who followed heathen rites, excepting only those who practised magic. He then applied himself to repair the injuries Julian had inflicted on religion, by rebuilding the Christian churches and removing from them the heathen idols of his predecessor. On the island of Corfu there is still standing one of the temples he erected, with a very perfect inscription in Greek, on a tablet in the frieze over the gate, expressing what he had done.

'I, Jovian, having powerful faith as the auxiliary of my endeavors, have built this sacred temple to thee, blessed Ruler on high!—having overturned the heathen altars, and shrines of the Greeks, I present this offering to thee, O King, with an unworthy hand.'

The first coins he struck, also allude to the re-establishment of Christianity. The obverse of one of them represents the bust of the emperor in his imperial robes, his chest, as it was in fact, remarkably thick and clumsy, and his head bound with pearls; the legend IOVIANVS P. F. AVG. *Jovianus Perpetuus, Felix, Augustus.* The reverse represents the emperor in armor, on horseback, before him a soldier bearing the labarum, surmounted by a cross, which the emperor is anxiously pointing to, and following as his guide; behind him is an angel with an olive branch in one hand, and in the other a crown of laurel, which she is reaching out to place it on the head of the emperor. The legend is, ADVENTVS AVGVSTI, *the coming of Augustus;* in the exergue, ROMA, the place where it was coined. The reign of this emperor was short, being only eight months. He was found dead in his bed, in the year 364, and was supposed to have been suffocated by the vapor of charcoal. The church, of the front of which we have given a representation above, must therefore have been standing 1463 years.

DEVOTION.

When all the summer's cheerful smiles are gone,
When autumn strews her leafy spoils abroad,
Go then, alone, to yonder mountain height,
And stretch thy ardent gaze o'er all below;
The field, the forest, all that late was fair,
And bright, and beautiful, are faded now.
It is the sacred sabbath of the year;
'Tis nature's hour of rest. Her work is done;
Her children all are satisfied with good.
If thou canst feel devotion pure, and warm,
And gushing like a fountain from the heart,
Now let thy heart expand with boundless love
To him who spreads the feast for all that live.
Observe again, the wide embrown'd expanse,
How many scattered habitations rise!
And think how many joyous hearts are there,
How many swell the cheerful note of praise!
Extend thy mental vision farther still,
To earth's remotest bounds—and thence to Heaven!
Oh who shall tell the numbers here on earth—
And who the millions round the eternal throne
Rejoicing? Lift up thine eyes to yon blue arch
Inlaid with golden suns, the spacious dome
Of nature's temple. There behold inscribed
In characters of fire, the name of God,
Unseen, invisible to mortal eye;
To faith alone revealed, his glory shines.
But thou may'st rise on contemplation's wing
To that bright sphere where he of Calvary,
Th' Eternal Son, dispenses life and joy
To millions by his sacrifice redeemed,
Who walk forever there in robes of light.
Thou may'st approach the mercy-seat, for He
The man of sorrows, shall present thy prayer,
And plead thy cause, and pointing to his cross,
He shall prevail. Then thou shalt join the choir
That speak his praise in strains unheard on earth,
Celestial strains, that ravish as they fall.

G.

COOK'S VOYAGES.

The voyages of discovery made by the English under the command of Captain Cook, in the last century, and which were closed by the return of the ships on the 5th of October, 1780, have long been familiar to geographers, and also to many other readers. Yet it is presumed there are many who have not had the opportunity of perusing the very interesting account of those voyages, and who, consequently, have no precise knowledge respecting them. To such persons, we trust, the following epitome of those voyages, which were at the time of the greatest importance to the geography of the world, may be acceptable. These voyages have also been important as affording a precedent for several similar undertakings in England, France, and America. An expedition on a very liberal scale, and which may be reckoned among the remote consequences of Captain Cook's voyages, is well known to be now preparing, under the patronage of our own government, to explore the South Seas.

At the close of the year 1767, it was resolved by the Royal Society, that it would be proper to send persons into some part of the South Sea, to observe a transit of the planet Venus over the sun's disk, which, according to astronomical calculation, would happen in the year 1769; and, that the islands called Marquesas de Mendoza, or those of Rotterdam or Amsterdam, were the properest places then known for making such observation. In consequence of these resolutions, it was recommended to his Majesty, in a memorial from the society, dated February, 1768, that he would be pleased to order such an observation to be made; upon which his Majesty signified to the Lords Commissioners of the Admiralty his pleasure, that a ship should be provided to carry such observers, as the society should think fit, to the South Seas; and, accordingly, a vessel of 370 tons was prepared for that purpose. It was named the Endeavor, and commanded by Captain James Cook, who was soon after, by the Royal Society, appointed with Mr. Charles Green, a gentleman who had long been an assistant to Dr. Bradley, at the Royal Observatory at Greenwich, to observe the transit. Captain Cook accordingly set sail from Plymouth on the 26th of August, 1768, accompanied in his voyage by Sir Joseph Banks, the former President of the Royal Society, and Dr. Solander. They made no discovery till they got within the tropics, where they fell in with Lagoon island, two groups of islands, Bird island, and Chain island, and they arrived, on the 13th of April, 1769, at Otaheite, where they had been instructed to make their observations, as a more proper place for the purpose than those which had been first suggested. During their stay at that island, they had the opportunity of making very accurate inquiries relative to its produce and inhabitants, and, on the 4th of June, the whole passage of the planet Venus over the sun's disk was observed by them, with great advantage. The result of their observations may be found in the Philosophical Transactions. After his departure from Otaheite, Captain Cook discovered and visited the Society islands and Oheteroa, and thence proceeded to the south till he arrived in the latitude of forty degrees, twenty-two minutes; longitude 147 degrees, twenty-nine minutes, W.; and afterwards made an accurate survey of New Zealand. In November, he discovered a chain of islands, which he called Barrier islands. He afterwards proceeded to New Holland, and from thence to New Guinea; and in September, 1770, arrived at the island of Savu, from whence he proceeded to Batavia, and from thence round the Cape of Good Hope to England, where he arrived on the 12th of June, 1771.

Soon after Captain Cook's return home in the Endeavor, it was resolved to equip two ships in order to make further discoveries in the southern hemisphere. Accordingly the Resolution and Adventure were appointed for that purpose; the first was commanded by Captain Cook, and the latter by Captain Tobias Furneaux. They sailed from Plymouth Sound on the 13th of July, 1772, and on the 29th of the same month, arrived at the island of Madeira. From thence they proceeded to the Cape of Good Hope; and in February, 1773, arrived at New Zealand, having sought in vain for a southern continent. In that month the Resolution and Adventure separated, in consequence of a thick fog, but joined company again in Queen Charlotte's Sound, on the 18th of May following. In August they arrived at Otaheite; and in September they discovered Hervey's island. On the second of October they came to Middleburgh, one of the Friendly isles, and about the close of that month, the two ships were again separated and did not join company any more. Captain Cook, however, proceeded in the Resolution, in order to make discoveries in the southern polar regions, but was stopped in his progress by the ice, in the latitude of seventy-one degrees, ten minutes south; longitude 106 degrees, fifty-four minutes west. He then proceeded to Easter island, where he arrived in March, 1774, where he did also in the same month at the Marquesas islands. He afterwards discovered four islands, which he named Pallifer's islands, and again steered for Otaheite, where he arrived on the twenty-second of April, and visited the neighboring isles. In August he came to the New Hebrides, some of which were first discovered by him: after leaving these islands he steered to the southward for a few days and discovered New Caledonia. Having surveyed the south-west coast of this island, Captain Cook steered again for New Zealand, in order to refresh his crew, &c. and put his ship in a condition to encounter the dangers attending the navigation in the high southern latitudes. Directing his course to the south-east, after leaving New Zealand, till he arrived in the latitude of fifty-five degrees, six minutes south; longitude 138 degrees, fifty-six minutes west, without meeting with any continent, Captain Cook gave up all hopes of discovering any in this ocean; and therefore came to a resolution to steer directly for the west entrance of the Straits of Magellan, with a view of coasting and surveying the outermost or south side of Terra del Fuego. Keeping, accordingly, in about the latitude of fifty-three or fifty-five, and steering nearly east, he arrived off the western mouth of the Straits of Magellan, without meeting with any thing remarkable in his new course. In January, 1775, he discovered

a large and dreary island, to which he gave the name of South Georgia. He afterwards discovered various capes and elevated snow-clad coasts, to the most southern part of which he gave the name of the Southern Thule, as being the nearest land to that Pole which had been yet discovered. In February he discovered Sandwich Land, and several islands covered with snow. He then proceeded round the Cape of Good Hope to England, where he arrived on the thirtieth of July, 1775. Captain Furneaux had returned to England in the Adventure a year before. As to Captain Cook, in the course of his voyage in the Resolution, he had made the circuit of the southern ocean in an high latitude, and had traversed it in such a manner, as to leave not the least room for possibility of there being a southern continent, unless near the Pole and out of the reach of navigation. It deserves also to be remembered, in honor of that able commander Captain Cook, that, with a company of 118 men, he performed his voyage of three years and eighteen days, throughout all the climates from fifty-two degrees north, to seventy-one degrees south, with the loss of only one man by sickness; which extraordinary circumstance arose from the great humanity of that officer, and his uncommon care and attention to the health of his crew.

Another voyage of discovery, and the last, was performed by Captain Cook and Captain Clerke, in the Resolution and Discovery, during the years 1776, 1777, 1778, 1779, &c. in search of a north-west passage between the continents of Asia and America. After they had arrived at the Cape of Good Hope, they proceeded from thence to New Holland. In their course they discovered two islands, which Captain Cook called Prince Edward's isles. The largest, about fifteen leagues in circuit, is in latitude forty-six, fifty-three south, longitude thirty seven, forty-six. The other, about nine leagues in circuit, latitude forty-six, forty, and longitude thirty-eight, eight east, both barren and almost covered with snow. From New Holland they went to New Zealand, and afterwards visited the Friendly and Society isles. On the seventh of February, being nearly in latitude forty-four degrees, thirty-three minutes north, and longitude 235 degrees, thirty-six minutes east, they saw part of the American continent bearing north-east. They afterwards discovered King George's Sound, which is situated on the north-west coast of America, and is extensive: that part of it where the ships under the command of Captain Cook anchored, is in latitude forty-nine degrees, thirty-six minutes north, and longitude 233 degrees, twenty-eight minutes east. On the twelfth of May, they discovered Sandwich Sound in latitude fifty-nine degrees, fifty-four minutes north. They afterwards proceeded to the island Unalaschka; and, after their departure from thence, still continued to trace the American coast, till they discovered the Strait which separates it from the continent of Asia. They passed the Strait, and arrived on the twentieth of August, 1778, in latitude seventy degrees, fifty-four minutes, longitude 194 degrees, fifty-five minutes, where they found themselves surrounded with ice, and the farther they proceeded to the eastward, they found the ice increase in resistance and firmness. They continued laboring among the ice till the twenty-fourth, when it was resolved, that as this passage was impracticable for any useful purpose of navigation, which was the great object of the voyage, it should be prosecuted no farther. The voyage, indeed, afforded sufficient evidence, that no practicable passage exists between the Atlantic and Pacific oceans towards the north, and it also ascertained the western boundaries of the great continent of America. On their return, this celebrated and able navigator Captain Cook was killed in an affray with the natives, on the island of O'why'hee, one of the Sandwich isles, on the fourteenth of February, 1779, leaving a name to be enrolled with Columbus and Vasquez de Gama, with Magellan, Dampier and Anson. After the death of Captain Cook, the command devolved on Captain Clerke, who died at sea on his return to the southward, on the twenty-second of August, 1779.

Perhaps no science ever received greater additions from the labors of a single man, than geography has done from those of Captain Cook. In his first voyage to the South seas, he discovered the Society islands; determined the insularity of New Zealand; discovered the straits which separate the two islands and are called after his name, and made a complete survey of both. He afterwards explored the eastern coast of New Holland, hitherto unknown, an extent of twenty-seven degrees of latitude, or upwards of two thousand miles.

In his second expedition, he resolved the great problem of a southern continent, having traversed that hemisphere in such a manner, as not to leave a possibility of its existence, unless near the Pole and out of the reach of navigation. During this voyage he discovered New Caledonia, the largest island in the southern Pacific ocean, except New Zealand; the island of Georgia, and an unknown coast, which he named Sandwich Land, the Thule of the southern hemisphere; and having visited the tropical seas, he settled the situation of the old, and made several new discoveries.

But the last voyage is distinguished, above all the rest, by the extent and importance of its discoveries. Besides several smaller islands in the southern Pacific, he discovered to the north of the equinoctial line, the group called the Sandwich islands, which, from their situation and productions, bid fairer for becoming an object of consequence in the system of European navigation, than any other discovery in the South sea. He afterwards explored what had hitherto remained unknown of the western coast of America, from the latitude of forty-three to seventy north, containing an extent of 3,500 miles; ascertained the proximity of the two great continents of Asia and America, passed the straits between them, and surveyed the coasts on each side to such an height of northern latitude, as to demonstrate the impracticability of a passage in that hemisphere, from the Atlantic into the Pacific ocean, either by an eastern or western course. In short, if we except the sea of Amur, and the Japanese Archipelago, which still remained imperfectly known to Europeans, he completed the hydrography of the habitable globe. But this is not all;

it was reserved for Captain Cook, and it is by no means the least part of his renown, to prove to the world, by repeated trials, that voyages may be protracted to the unusual length of even three or four years, in unknown regions, and under every change and rigor of climate, not only without affecting the health, but even without diminishing the probability of life, in the smallest degree.

CHARACTER AND CONDITION OF FEMALES IN INDIA.

[From Mrs. Judson's Address to Females.]

'In Bengal and Hindostan, the females, in the higher classes, are excluded from the society of men. At the age of two or three years, they are married by their parents to children of their own rank in society. On these occasions all the parade and splendor possible are exhibited; they are then conducted to their father's abode, not to be educated, not to prepare for the performance of duties incumbent on wives and mothers, but to drag out the usual period allotted in listless idleness, in mental torpor. At the age of thirteen, fourteen, or fifteen, they are demanded by their husbands, to whose home they are removed, where again confinement is their lot. No social intercourse is allowed to cheer their gloomy hours; nor have they the consolation of feeling that they are viewed, even by their husbands, in the light of companions. So far from receiving those delicate attentions which render happy the conjugal state, and which distinguish civilized from heathen nations, the wife receives the appellation of *my servant*, or *my dog*, and is allowed to partake of what her lordly husband is pleased to give at the *conclusion* of his repast! In this secluded, degraded situation, females in India receive no instruction, consequently they are wholly uninformed of an eternal state. No wonder mothers consider female existence a curse; hence their desire to destroy their female offspring, and to burn themselves with the bodies of their deceased husbands. This last circumstance might imply some attachment, were it not a well known fact, that the *disgrace* of a woman who refuses to burn with the corpse of her husband is such, that her nearest relations would refuse her a morsel of rice to prevent her starvation. Thus, destitute of all enjoyment, both here and hereafter, are the females in Bengal. Such is their life, such their death—and here the scene is closed to mortal view! But, they are amiable, say some, and destitute of those violent passions which are exhibited among females in our own country. My beloved friends, be not deceived. Who ever heard that ignorance was favorable to the culture of amiable feelings? Their minds are in such a state of imbecility, that we might hope to find at least an absence of vicious feelings. But facts prove the contrary. Whenever an opportunity for exhibiting the malignant passions of the soul occurs, human nature never made a more vigorous effort to discover her odious deformity, than has been observed in these secluded females.

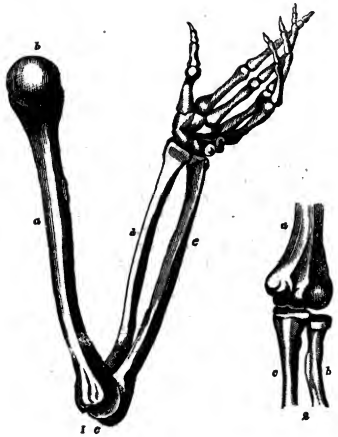
'But let us turn our eyes from the present picture, to one not less heart-rending, but where hope may have a greater influence to brighten and to cheer. The females in the Burman empire, (containing a population far above the United States of America,) are not like the females in Bengal, secluded from all society. In this respect they are on an equality with ourselves. Wives are allowed the privilege of eating with their husbands. They engage in domestic concerns, and thus, in some respects, the Burman females deserve our particular sympathy and attention. But they enjoy little of the confidence or affection of their husbands, and to be born a female is universally considered a peculiar misfortune. The wife and grown daughters are considered by the husband and father as much the subjects of discipline, as younger children; hence it is no uncommon thing for females of every age and description, to suffer under the tyrannic rod of those who should be their protectors.

'Burmah, also, like her sister nations, suffers the female mind to remain in its native state, without an effort to show how much more highly she has been favored. The females of this country are lively, inquisitive, strong and energetic, susceptible of friendship and the warmest attachment, and possess minds naturally capable of rising to the highest state of cultivation and refinement. But, alas, they are taught nothing that has a tendency to cherish these best native feelings of the heart! That they possess strong, energetic minds, is evident from their mode of conversing, and from that inquisitive turn which is so conspicuous. It may not, perhaps, be uninteresting to mention a particular display of mental energy as exhibited in the early inquiries of Mah Men-la.

'Some time previous to our arrival in Rangoon, her active mind was led to inquire the origin of all things. If a Boodh was deity, who created all that her eyes beheld? She inquired of this person, and that, visited all the teachers within the circle of her acquaintance, but none were able to give her satisfactory information on the subject. Her anxiety increased to such a degree, that her own family feared she would be deranged. She finally resolved on learning to read, that she might be able to gain the desired information from their sacred books. Her husband, willing to gratify her curiosity in this respect, taught her to read himself. After having acquired what very few Burman females are allowed to acquire, she studied the sacred books, which left her mind in the same inquisitive state as when she commenced. For ten years she had continued her inquiries, when, one day, a neighbor brought in a tract written by Mr. Judson, from which she derived her first ideas of an eternal God. Her next difficulty arose from her being ignorant of the residence of the author of the tract, and it was not till after the erection of the place of worship, that this difficulty was removed. By her inquiries respecting the Christian religion, she evinced a mind, which, had it been early and properly cultivated, would have hardly been surpassed by females in our own country.

BENEVOLENCE.

The British and Foreign Bible Society have sent out, and distributed among the liberated slaves in the West Indies, a hundred thousand bibles. The only condition required of the recipients was, that they were able to read.



THE BONES OF THE ARM.

Fig. 1. *a*, the humerus; the head, *b*, is a portion of a sphere, and exhibits an example of the ball and socket, or universal joint; *c*, the hinge joint, instanced in the elbow; *d*, the radius; *e*, the ulna. The radius belongs more properly to the wrist, being the bone which supports the hand, and which turns with it in all its motions. The ulna principally belongs to the elbow joint, for by it we perform all the actions of bending or extending the arm.

Fig. 2. *a*, the humerus; *b*, shews the connexion of the radius with *c*, the ulna, at the elbow. The mode of articulation at the wrist is seen in figure 1.

Need we proof of the existence of a self-existing and creating intelligence? Within the sphere of our own limited vision, above, around, and beneath us, and in the curious and complicated mechanism of our animal frame we see stamped in broad and living characters, ample proof of the being of an intelligent, designing Creator. If it be true that the undevout astronomer is mad, what can be said of the undevout physician? As to-day we look upon man, the wonderful combination of the material with the immaterial, exhibiting in his frame-work a complicated mechanism, far outstripping the proudest efforts of human art, setting aside as a thing of nought, by some unknown and undiscovered power, the common laws which govern the material universe, subjugating and converting to his own use by the force of enlightened intelligence, the works and elements of nature—and to-morrow see that same proud monument of creative design, contending, struggling, sinking, ephemeral-like, under the force of disease,—what say we, are we of yesterday—for to-day, alone, and without design? Or examine we more closely into the curious and wonderful of our frame-work—still, every where may be seen the same marks of unbounded benevolence and intelligent wisdom. From no source can we derive more convincing and ample proofs of some designing Creator, than from the study of anatomy, either as a whole or in part. The interesting example which may be found in another part of this same volume as well as the instance before us, would furnish themes for pages. But we will not enlarge, and would but introduce the interesting remarks of the author of Natural Theology, on the mechanism of the arm.

'Another mechanical contrivance not unlike the last, (i. e. the neck,) in its object, but different and original in its means, is seen in what anatomists call the '*fore-arm*,'—that is, in the arm between the elbow and the wrist. Here for the perfect use of the limb two motions are wanted; a motion at the elbow backwards and forwards, which is called a reciprocal motion, and a rotatory motion, by which the palm of the hand, as occasion requires, may be turned upwards. How is this managed—the fore-arm it is well known, consists of two bones lying along side each other, but touching only towards the ends; one, and one only of these bones, is joined to the cubit or upper part of the arm, at the elbow; the other alone to the hand at the wrist. The first, by means at the elbow of a hinge joint, (which allows only of motion in the same place,) swings backwards and forwards, carrying along with it the other bone and the whole fore-arm. In the mean time as often as there is occasion to turn the palm upward, that other bone to which the hand is attached, rolls upon the first, by the help of a groove or hollow near each end of the bone, to which is fitted a corresponding prominence in the other. If both bones had been joined to the cubit or upper arm at the elbow, or both to the hand at the wrist, the thing could not have been done. The first was to be at liberty at one end, and the second at the other: by which means the two actions may be performed together. The great bone, which carries the fore-arm, may be swinging upon its hinge at the elbow, at the very time that the lesser bone, which carries the hand, may be turning round it in the grooves. The management also of these grooves, or rather of the tubercles and grooves, is very observable. The two bones are called the radius and ulna—above, i. e. at the elbow, a tubercle of the *radius* plays into a socket of the *ulna*, whilst below, i. e. towards the wrist, the *radius* finds the socket and the *ulna* the tubercle. A single bone in the fore-arm, with a ball socket joint at the elbow, which admits of motion in all directions, might, in some degree, have answered the purpose of both moving the arm and turning the hand. But how much better it is accomplished by the present mechanism, any person may convince himself who puts the ease and quickness, with which he can shake his hand at the wrist circularly, (moving likewise if he please, his arm at his elbow at the same time,) in competition with the comparatively slow and laborious motion, with which his arm can be made to turn round at the shoulder by the aid of a ball and socket joint.

The atheist may doubt, and the scoffer mock, while we are content to reverence that existence, whose being is stamped as clearly in the minutest as the mightiest portion of the universe.

The American Rocky Mountain Goat.

THE ROCKY MOUNTAIN GOAT.

Among the cliffs of the Rocky Mountains, west of the Mississippi, the traveller finds the animal represented above. According to the report of Major Long, it inhabits the mountains from the forty-eighth to the sixty-eighth degree of latitude; but Lewis and Clarke saw it as far south as the forty-fifth parallel. They are found in great numbers about the head waters of the north forks of the Columbia river, and also about the sources of the Marrais, or Muddy river, the Sashatchewan, and the Athabasca. In the summer season they ascend to the highest peaks of the mountains, but are more generally found on the western slope than on the eastern. In the winter they descend into the vallies, but are very rarely seen at any considerable distance from the mountains. Their flesh is musky and unpleasant, nor do the traders set a very high value on their fleece. The natives, however, use their flesh for food, and it sometimes forms their principal dependence. The skin is also used for moccasins, being very thick but somewhat spongy.

The Rocky Mountain Goat does not differ very much in size from a common sheep. The horns are five inches in length, and about three inches in circumference. The wool and hair on the head is so long and thick, as to cover a large portion of them. The horns and hoofs are black. Like other animals of this kind, they have two kinds of hairy covering on their bodies. The exterior one is a very long kind of hair, forming a beard beneath the skin. The shorter portion is a soft and white kind of wool. It has been suggested, that the fineness of the wool of this animal might hereafter induce persons, who may have it in their power, to make exertions to introduce this species among our domestic animals. It is said that the wool of this goat is as fine as that of which the beautiful Cashmere shawls are made. If such is the fact, we shall probably soon have an opportunity to know more of this tenant of our western mountains.

Sacred animals of the egyptians.—Diodorus mentions that when the Egyptians went abroad in the wars, they brought home with great lamentation dead cats and hawks to be buried in Egypt. There was a mourning in whatever house a cat or dog happened to die; for the former, the inmates shaved their eyebrows, and for the latter their whole body. Whenever a fire happened, the great anxiety of the Egyptians was, lest any cat should perish in the flames; and they took more care to prevent such a calamity than to save their houses. The punishment was death to kill a sacred animal designedly, but if undesignedly, the punishment was referred to the discretion of the priests. But if a person killed a cat or an ibis, no distinction of intention was made; the enraged multitude hurried away the unfortunate person to his death. Diodorus also relates that some Romans being in that country for the purpose of concluding a treaty with the king, the people, who were much interested in the result, and held the Roman power in great fear, treated the strangers with the utmost attention and civility. But one of them having happened undesignedly to kill a cat, the enraged mob hastened to his lodging, and neither the interference of the king nor the dread of the Romans could deter them from putting him to death. * * * Herodotus states that the Egyptians worshipped cows with more profound reverence than they did any other cattle. The ox was sacrificed, but not the cow, which was sacred to Isis. On this account, he says, no Egyptian, male or female, would kiss a Greek on the mouth, or use his cleaver, his spit, or his dish; and they have carried their scruples so far as to abstain from lawful meat that had been cut with a Grecian knife. This is almost precisely the state of things in India at the present day.—*Pictorial Bible.*

MR. CATHERWOOD'S LECTURES

The second lecture of this gentleman, which has recently been delivered at the Odeon, was a description of the Arab tribes, the curiosities of Upper Egypt and Nubia, the cataracts of the Nile, and the journey to Mount Sinai and through the Great Desert, to the borders of Palestine.

The character of the Arab tribes is generally misunderstood or misrepresented. They are neither treacherous nor inhospitable, but during his stay amongst them, which was for several months, Mr. C. experienced great kindness from them. They have little or no desire for money, and he had no occasion for the use of it while among them. Their trade is carried on by barter, and they have no coins of their own, but sometimes make use of rings of specified value as a substitute. They are divided into two distinct classes, one of which lead a pastoral life, and live in tents with their herds around them, the other reside in cities and towns. They form a population of eight or ten millions.

The journey from Thebes to the Red Sea, requiring about four days, is highly interesting, although it lies mostly through a barren country. The road for a part of the distance abounds with jasper and alabaster, and upon the borders of the sea the shells are very beautiful. He describes a structure discovered by Mr. Barton, an English traveller, a few years ago upon the sea-coast. It was eight or nine feet high, and composed partly of human bones, and decayed garments, probably of some shipwrecked sailors, as there are no inhabitants in that vicinity, and near it was found a watch. On examining, it was found to contain a *nest*. It was evidently not constructed by human hands, and it is impossible to account for its existence. There are no animals or birds inhabiting the desert, except the ostrich.

Leaving Thebes, and ascending the Nile, the first cataract is found about five or six hundred miles from the sea. It is unlike the falls of Niagara, being merely rapids extending five or six miles, although the whole fall is something like three hundred feet, there is no perpendicular descent of more than ten feet. Passing the cataract, and on entering Nubia, is found a people of very different character, and speaking an entirely different language.

Mr. C. describes the ruins of a magnificent temple in Nubia, containing fourteen rooms, many of which containing statuary of immense proportions. One statue, cut from a single piece of granite, measured across the shoulders twenty-six feet, and the ears were five or six feet long. The doorway was covered with sand, and he employed several men many days to pour water upon it to render it of sufficient firmness to pass over. The inhabitants are wild but civil.

On leaving Nubia, he again found tribes of Arabs, speaking the same language as the other tribes described. These tribes were however found to be at war with each other, and his progress up the Nile was arrested. He remained three months under the protection of one of their chiefs, but being warned by him that his life was in danger, by his advice he escaped in the night and descended the river in a boat, and while passing the rapids, narrowly escaped being drowned. On arriving again at Cairo, he found the plague was making great ravages among the inhabitants. Twenty-five thousand persons were swept off in this single city, by this disease during that year. Mr. C. stated the singular fact that the plague never ascended beyond the first cataract.

Mr. C. gave an interesting description of the first discoveries made in Hieroglyphics by the French, and explained the manner of interpreting them; which he stated was mostly discovered by Dr. Young, an English traveller. The descriptions and explanations given was much of the same character as contained in 'Champollion's Hieroglyphics,' an interesting little work on this subject, which we presume is for sale at the bookstores.

The Pasha of Egypt has an army of one hundred thousand men well disciplined, and a considerable naval force. The number of inhabitants contained in his dominions is about two millions and a half. Polygamy, although sanctioned by law, is not at this time generally practised except among the higher class, and mostly by them for the reason that it is considered to contribute to their dignity.

Mr. C. on leaving Cairo passed over the route supposed to have been taken by the Israelites in their exode from Egypt. The Arabs treasure up and are fond of traditions, and pointed out to him the place where Moses crossed the Red Sea, and described to him the action of the winds as they sometimes force back the waters of the sea at this place. They have a tradition, however, that Pharaoh was not drowned as is supposed; nor is it necessary to suppose that he was, from the record in Holy Writ, as it is only stated that the 'hosts of Pharaoh were drowned.' This tradition is also confirmed by several inscriptions still in existence, as the Arabs state, referring to this same Pharaoh, bearing dates subsequent to the exode of the Israelites. Much caution however is to be exercised in receiving these traditions. At the end of the second day's journey he arrived at the well of bitter waters —the location of which it is not difficult to determine, as the water is at this day extremely bitter. On approaching Mount Sinai, the traveller meets with granite formations, and here the vallies are supplied with water, and the one was pointed out to him in which the Israelites were supposed to have encamped for a considerable time. The convent on Mount Sinai, is a large building, more resembling a fortress than anything else, and is supplied with guns.

The entrance to it is forty feet above the ground, and the ascent is accomplished by a rope being let down, to which a basket is suspended, in which the person seats himself, and is drawn up. It was built by the empress Helena. Mr. C. remained there ten days; the Monks employ themselves in long prayers, &c., and the cultivation of a magnificent garden that is attached to it. The Monks stated to him that Mahomet once acted as a servant to the Monks of this convent, and that by his express command they are still exempt from taxation. The Turks and Arabs hold Mount Sinai in equal reverence. The view from its summit is splendid, although it overlooks a barren country; the Red

Sea is within the scope of vision, and the lesser mountains round about. The rock that was smote by Moses to obtain water, was shown to him, but this is undoubtedly an imposition, as is discernible by the crevices of the rock, in which the water is said to have ran down, bearing evident marks of the chisel. Another rock, at considerable distance from this, was once said to have been the one upon which the miracle was performed, but being situated at an inconvenient distance from the high road, travellers were found to be unwilling to visit it, and it was consequently abandoned. From Mount Sinai to Palestine, Mr. C. did not pursue the route traversed by the Israelites, but took the nearest and most direct one, across the desert of Sin to Gaza. This desert is extremely barren, and abounds in sand and sand-stone, and on the whole route there are but two wells.

The extent of Palestine is about 160 miles in length, and fifty or sixty in width. There is no correct map of this interesting country extant. The territory bears strong evidences of ancient cultivation: the wild olive, and fig tree and vine are still growing; there are, however, but few palm trees, none near Jericho, and very few balsam trees to be found in the whole country. The palm tree wine is the only intoxicating drink used by the inhabitants, and this but sparingly; it is not pleasant to the taste, and some suppose that even this is prohibited by the Koran. It is obtained by ascending a tree in the spring of the year and cutting off the top at a proper distance from the ground, and hollowing the trunk like the interior of a bowl, the sap flows up into this cavity, and is taken out morning and evening, during the summer, and in the autumn the tree always dies. The form and extent of the Dead Sea is not correctly known; its waters are bitter, but soft and extremely buoyant; it is formed by a bank of sand and salt at the southern extremity.

The ancient site of Sodom and Gomorrah are not within its bounds, nor were they destroyed by it, but by fire from Heaven. The sea of Tiberius is thirty-five miles long by eight or ten in width, and from it flows the river Jordan. The water of this river is pure and good till it approaches the Dead Sea, when it becomes bitter. Its banks are fertile but uncultivated, the wild flowers grow most luxuriantly, and are often found eight or ten feet high. There are but six or seven of the cedars of Lebanon now remaining, some of which measure from twenty to thirty-six feet in circumference. Mr. C. shewed to the audience a cone gathered from one of them, and stated that he had now growing about twenty young trees produced from this cone.

The whole lecture was extremely interesting, and listened to with great attention and apparent pleasure by a large audience.—*Mercantile Journal.*

A FRAGMENT.

'There is no place like home.' This poetic phrase is no less beautiful than true. We find that the fond attachment of home pervades all ranks and classes of society. The wandering Scythian, although they had no abiding habitation, yet they maintained that regard and veneration for the place where the bones of their forefathers slumbered, that the mighty army of Cyrus could not appal. Even the rude and untutored savage of America, whose dauntless spirit never quails before a foe, has nevertheless a heart which beats with the warmest love towards his friends, and the most tender regard to the spot where stands his wigwam. But in civilized society, what is it that binds every sympathising feeling of the heart around the cottage where our fathers dwell? Is it because there is more intrinsic worth attached to it, or is it those heaven-born associations which connect each brook and rill, each hill and dale, with some joyful recollection of happy hours spent in the company of a youthful friend, who now, perhaps, sleeps beneath the cold sod of the valley? Yes, this tends more firmly to rivet the ties of affection, to paint to the imagination scenes which occurred at home, and to call up from the wreck of the past, hours sacred to memory. Yet these associations, joyous as they are, would sink into comparative nothingness, if from that circle where we spent our youthful days in the gay sunshine of pleasure, was removed—a mother. Yes, home, sweet as it is, would be like a temple stript of its garlands, were it not for the sacred name of mother, to consecrate its portals. Like the evening dew, which scatters its fragrance while all else is wrapt in the slumber of night, so the mother, while every other ear is deaf, is attentive to our griefs, mingles her tears in the cup of our misfortune, and soothes our dying agony. What a solemn place for contemplation is the grave of our mother! Every fault is buried in the stillness which entombs her. Then it is that the soothing words that fell from her lips, the sweet smiles which emanated from her countenance, and the warm sentiments which breathed from her soul, come floating along like heavenly visions. Alas! never did I fully comprehend the charms that are conveyed in that word mother—until the grave had hid her from my view. But though the grass waves over her grave, and the soft, gentle breezes of summer pass unheeded by, yet never until my spirit shall have flown to the other worlds, never until the grave shall enclose my humble remains, will I forget that word, mother.

EFFECT OF THE HUMAN EYE ON WILD BEASTS.

Mr. King, in his narrative of the journey performed under the command of Captain Back, to the shores of the Arctic Ocean, speaking of the great American wolves, says that their courage censes with the gaze of a man—a fact of which the Indians are quite aware, and frequently turn to a good use. 'I am not only convinced,' adds he, 'that a courageous man, unless he becomes the aggressor, with very few exceptions, is perfectly secure from the attacks of the brute creation in a wild state; but that they will invariably shun him if there is only space enough to admit of their escape. I have frequently, for experiment's sake, approached the rein-deer with closed eyes, without alarming them; when a single glance made them bound with fear.'

View of Mount Hecla.

VOLCANOES OF ICELAND.

Mount Hecla in the island of Iceland, has long been celebrated for the intensity and the long continuance of its eruptions. The island itself is not unfrequently shaken from its centre to its shores with violent earthquakes; and new islands are often formed upon its coasts, some of them sinking beneath the level of the water as quickly as they were formed, and others continuing for so many years as to give an expectation of their permanence. Hecla has been more than twenty times in a state of eruption during the last eight hundred years, and when excited, its devastating fury seems not to be easily appeased. If we could mention one year as being more distinguished than any other for the violence of volcanic force in Iceland, we might direct the attention of the reader to the year 1783. In the month of May of that year, a sub-marine volcano was formed about thirty miles south-west of Reykiaras. From the crater of this island so large a quantity of pumice was ejected that the ocean was completely covered with it for more than a hundred and thirty miles; but after a short time the island sunk beneath the level of the ocean, and only a rocky reef from five to thirty fathoms below the water, was left as the evidence of the prior existence of the island, and the power and activity of the volcanic agent.

On the eleventh of June, Shaptar Jokul, a volcanic mountain that has often spread desolation over the surrounding country, ejected a torrent of lava, which, flowing into the river Shapta, dried it up and overflowed the fields beyond it, though in some places the bed was more than six hundred feet deep, and nearly two hundred feet wide. A deep lake between the Shaptardal and the Aa was filled with the lava, and a subsequent current was precipitated down a tremendous cataract called Stapafoss, where it filled a profound abyss which that great waterfall had been hollowing out for ages, and after this the fiery current again continued its course. The eruption of Shaptar Jokul did not entirely cease till the end of two years; and when Mr. Poulson visited the tract eleven years afterward in 1794, he found columns of smoke still rising from parts of the lava, and several rents filled with hot water.

The sides of the valley of Shapta present superb ranges of basaltic columns of older lavas, resembling those which are laid open in the valleys descending from Mount d'Or, in Auvergne, where more modern currents of lava, on a scale very inferior in magnitude to those of Iceland, have also usurped the place of existing rivers.

The consequences of volcanic eruptions suggest the probable origin of those masses of unstratified rocks, which are found to overlie other stratified rocks, which are probably produced by depositions from, or solidification under water. They also account very satisfactorily for the existence of many of the veins which are occasionally found to intersect horizontal deposits. Veins have been formed by injection, and by the admission of igneous rocks in a melted state from above; in the former case the rocks must have been almost necessarily disturbed, and they will consequently retain the evidence of that disturbance; but veins may have been formed by intromission without any disturbance of the parallelism of the beds they intersect. When lava is injected into a fissure from below, the probability is, that the fissure was formed either by the same cause which propelled the liquefied rocks, or by one similar to it in intensity and character; but when filled from above the aperture may have been produced by an aqueous as well as an igneous cause; and hence it is that in these instances we sometimes find the beds which surround the basalt or trap vein give no evidence of having suffered under a disturbing force. Thus we are taught the causes of ancient phenomena by studying the operations of agents which are now active.

MATHEMATICAL QUESTIONS.

1. A sheet-iron worker has a plate sixteen inches long by twelve inches wide, and desires to cut out the corners and turn up the sides and ends perpendicularly, to make a vessel which shall hold as much as he possibly can by this method; what will be the dimensions and the capacity of the vessel?

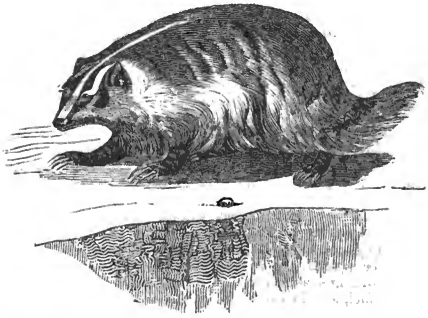
2. Having another plate of the same size, he would cut out pieces from the corners and turn up the sides and ends at such an angle that the second vessel will hold half as much as the former; what will be the dimensions of a cover, and what the height of the second vessel?

No allowance to be made for the thickness of the sheets.

Answers to be sent to the publisher of the Magazine without expense to him.

Change of place in plants.—Many plants, common duck-weed for example, are not firmly attached to the ground by their roots, but can change their situation at certain seasons of the year, sinking at one time to the bottom, and at others coming to the surface of the water.

The dormouse.—For its winter sleep it prepares a globular and tolerably solid nest of the needle-shaped leaves of the fir, in which it conceals itself.



THE AMERICAN BADGER.

In a former number, (page 137, vol. 3.) we have given a figure of the badger of Europe. The American badger differs from the European in being in general more slender in his form, in having the head less pointed towards the nose, in having a depression in the line of its profile between the forehead and the nose, this line in the European species being quite straight; and also in the markings.

In the American badger, there is a narrow white line running from between the eyes toward the back; the remainder of the upper part of the head is brown; the under jaw and throat are white. In the European animal there are three broad white marks, one on each side and one on the top of the head, between which there are two broad black lines including the eyes and ears; all the parts under the throat and jaw are black. In the American the hair on the upper part of the body is fine, long, and greyish. In the European it is coarser, still longer, and darker. In the American the under parts are lighter than the upper parts; in the European they are darker.

This animal is destined by nature to a subterraneous and solitary mode of life. The hours of day light are consumed in sleep, in a deep and dark retreat, and under cover of the night it emerges from its burrow in quest of food. It feeds on fruits, insects, frogs, and probably any small animals which come in its way.

The American badger is found most frequently on the plains adjoining the Missouri and its tributary streams, and also on those near the Columbia river. It prefers the open country, but it is sometimes found in the woods. It is altogether inoffensive, timid, and somewhat slow in its movements except in burrowing. The long claws on its fore feet are admirably adapted to this purpose, and such is the celerity with which it escapes from danger by burrowing, that it is in vain to attempt to secure the animal by digging for it. Its progress is too rapid, and the depth to which it descends is too great.

This animal is about two feet five inches long, including the tail, which is three inches. The neck is short: the mouth wide; the eyes are black and small.

Sioux tradition of the Red Pipe Stone.—Before the creation of man the Great Spirit (whose tracks are yet to be seen on the stones of the red pipe, in form of the tracks of a large bird,) used to slay and devour the buffalo on the top of the Coteau de Prairie, and their blood running into the ground, turned the stones red. One day when a large snake had crawled into the nest of the bird to eat his eggs, one of the eggs hatched out in a clap of thunder, and the Great Spirit catching hold of a piece of the pipe stone to throw at the snake, moulded it into a man. This man's feet grew fast in the ground, where he stood for many ages, and therefore he grew very old; he was older than a hundred men at the present day; he bore a delicious fruit, some of which fell, when a large snake ate them both off at the roots, and they wandered off together; from these have sprung all the people that now inhabit the earth.

After many years, when all these different tribes were at war, the Great Spirit sent runners and called them all together at the 'Red Pipe.' He stood on the top of the rocks, and the red people were assembled on the plains below. He took out of the rock a piece of the red stone and made a large pipe; he smoked it over them all; told them it was part of their flesh; that the red men were made from it; that though they were at war, they must meet at this place as friends; that it belonged to them all; that they must make their calumets from it and smoke them to him whenever they wished to appease him or get his good will—the smoke from his big pipe rolled over them all, and he disappeared in its cloud; at the last whiff of his pipe a blaze of fire rolled over the rocks and melted their surface—at that moment two squaws went in a blaze of fire under the two medicine rocks, where they remain to this day, and must be consulted and propitiated whenever the pipe stone is to be taken away.

NEW STEAM ENGINE.

[From the New York American.]

The fine vessel designed for a steam-packet between this port and Liverpool, under the auspices of Captain Cobb, which has been some time in construction, was launched last week, and is now preparing to receive her machinery.

Under these circumstances, we have thought it would interest our readers to see a description of the new sort of engine by which she is to be propelled. It is the invention of Mr. *P. Bennett*, of *Ithaca*, in this State, to whom we are indebted for the description we annex.

We have examined a small model of the engine —now at the rooms of the American Institute in Broadway—and so far as an eye and judgment unskilled in mechanics, may be trusted, the advantages of this engine, in producing combustion, in applying all the heat of the fuel, and in extraordinary economy of fuel, appear to us striking and manifest.

As a laudable interest has been excited in the public mind by the engine now making for the steam packet built by our enterprising citizen, Captain N. Cobb and his associates, and as many false conjectures concerning the enterprise have agitated the public, and as success depends upon the steam generator intended for said packet, the inventor deems it due to the public to give a brief history and a description of it.

'In the year 1819, while experimenting for the improvement of the steam engine, my attention was arrested by the great loss of heat under the circumstances in which steam is generally produced, and the idea of my present generator suggested itself to my mind at that time. I continued to theorize until the winter of 1824 and '25, when I constructed a boiler to test the principle, and in March, 1825, made the first experiment in R. L. Cawdrey's carriage shop, Ithaca, Tompkins county, New York.

'It was to me a very flattering one. I used a blacksmith's bellows to supply the fire with air, and from the volume of steam generated with this apparatus, I concluded there was about eight times as much steam produced, as air forced into the fire, but had no means of measuring the steam, it being simply blown off into the air. I immediately built an engine to ascertain the proportion of air blown into the fire and the steam generated, knowing that success hung upon that point.

'As I before stated, I presumed there was as much as eight times the quantity of steam and air, (which mingled together in the operation,) as there was air blown into the fire—accordingly I built the bellows of one-eighth the capacity of the steam engine. In attempting to put it in operation, I found the bellows was too small, as the steam would not keep up, consequently I substituted another one of larger dimensions, and found by that that there was about four times the quantity of steam as air, which much reduced my former calculation.

'As the apparatus I then had was rude and imperfect—the boiler being only twenty inches in diameter, and thirty inches long, and the furnace that contained all the fuel used was enclosed in this scanty allowance—I was unable to make a perfectly satisfactory experiment; but believing enough was shown to warrant the constructing of as good an engine as could be built at Ithaca—the place of my residence—where the facilities of building were extremely limited, no engine at that time having been built within 160 miles. I employed two ingenious coppersmiths, Messrs. George and Thomas Walker, from England, to make all the copper and sheet-iron work. The generator was composed of two cylinders of seven feet long—the inner one (of copper) two feet diameter—the outer one (of wood) two and a half feet diameter—the inner cylinder containing the fuel, and the space between the inner and outer cylinder contained water. My steam cylinder was copper, sixteen inches diameter, two feet stroke—bellows nearly half the capacity—the whole on the beam engine plan, calculated to make forty-five double strokes per minute.

'In the month of September, 1825, every thing being ready for trial, I filled the furnace with wood —started the engine, and regulated its speed to forty-five strokes per minute; and it ran regularly for three hours without any more fuel than was first put into the furnace. Perceiving that tar, or matter nearly resembling it, was discharged with the steam, and that after repeated trials, if the water in the boiler was the least deficient, the tar became so hard that the engine would stop, I laid it by until the year 1834, when I made another experiment, and succeeded in wholly burning up the tar and smoke, and thus rendered the steam pure.

'In 1835, I contracted with Messrs. Cook and Conrad, of Ithaca, steam engine builders, for an engine composed of two steam cylinders and one blowing cylinder, each two feet diameter and two foot stroke, with boiler thirty-two inches diameter and four feet long, which contained all the water and fuel. It was completed in October of the same year. On putting the engine in operation, I found that the boiler was too small—the blast blew the fuel off from the grates—they occupying a space only seventeen inches square; but as it was, it would under favorable circumstances work the engine seventy-five revolutions per minute. I immediately set about making a new boiler eight feet high, three feet diameter,—outer cylinder—the inner cylinder six feet high and two and a half diameter, which contained the fuel. When completed, I found it answered every purpose intended. It would furnish steam in abundance, so that the engine would make ninety revolutions per minute; while at the same time large quantities of steam were blowing off at the safety valve—say about one-third of the whole quantity made. At this time the engine was doing no labor, but moving itself. I then put the engine on a lake canal-boat of seventy-five feet keel and fourteen and a half feet beam, and which obtained its full breadth of beam ten feet from the stern—built for burthen and not for speed.

'I made repeated trials on the Cayuga lake, and her speed was eleven miles per hour when in order, though it was all but impossible to keep her so. The engine was built to sustain forty-five pounds to the inch, but when in order it would rise to sixty—

then invariably something would fail. Twice, the shafts broke, which were six and a half inches in diameter, and perfectly sound. I found the engine wholly insufficient and laid it by. In the mean time I disposed of some part of the patent right, a portion which has since changed hands at the rate of *one million two hundred and eighty thousand dollars*, for the whole patent. Subsequently I became associated with several gentlemen, and made a contract with P. A. Sabbaton, Esq. of New York, to build an engine of 350 horse power, and entered into an arrangement with Captain N. Cobb, to put it on board his Liverpool steam packet.

The engine is called a '*double steam engine*,' having two steam cylinders of thirty-five inches diameter, six feet stroke; two blowing cylinders of just half the capacity, which are worked by the engine, and the air is conducted to a boiler, whose outer cylindrical case is four feet diameter and twelve feet high; the furnace, or inner case, is three and a half feet diameter and nine feet high—the fuel is introduced into it down the chimney, and it is so constructed, that not one particle of heat, generated by combustion, can escape, but must absolutely pass into the water, together with all the gasses generated by combustion, and become as powerful an agent as the steam itself, passing through the steam cylinders with it.

The engine used on Cayuga lake, as near as I could ascertain, burned one cord of wood in eighteen hours. The engine for the Liverpool packet is of six times the capacity, consequently will burn one cord in three hours. It takes about 225 feet of air to burn one pound of dry wood or coal, and the engine will blow into the furnace, when it is making thirty-five revolutions per minute, 2625 feet of air in the same time. I would have it borne in mind, that no air whatever gets into the furnace when the engine is in operation, but what is forced in by the blowing cylinders, hence invariably it takes at least thirty-five revolutions to burn twelve pounds of fuel, which, with a twenty foot paddle-wheel, (which is the size of ours,) will move the boat about 1750 feet, or will take thirty-six pounds to propel the boat one mile.

TRANSMISSION OF PECULIAR QUALITIES TO OFFSPRING.

Amongst the wild cattle which are still found in two or three of the parks of England, the young calves show considerable ferocity as soon as they are dropped; while the calves of our domestic cows are remarkable for their gentleness, and allow themselves to be handled without exhibiting any signs of fear or wildness. It has been observed that the kittens of a cat who prowls about our barns and outhouses, and avoids observation, are much more fierce in their nature, than the young of a cat who has become familiar with us by kindness, and accustomed herself to live much in the house. The parent's ferocity and fierceness, or tameness and docility, seems to be imparted to the young with life; and this will be generally found to be the case with most animals.

NEW DISCOVERY OF AMERICAN ANTIQUITIES

The Chicago American contains a notice of the discovery of the ruins of an ancient city, on the Crawfish river, a tributary of the Rock river. The first made discovery was, what may be termed a citadel—*the walls of which were of brick*, four or five feet high, twelve feet wide at the base, and supported by buttresses every five rods. The citadel encloses the ruins of six large buildings, and about five others of a smaller size. Without the citadel or inner wall, are the ruins of another, also made of well burnt brick, which appears to be about three miles square. Specimens of the brick are in possession of Mr. B. Kilbourn, of Milwaukie. In three angles of the inner wall, there exist remains of large mounds, one of which, at the south-west angle, is now left about fifteen feet high. The site of these ruins is now covered by a forest of large growth, some of the trees being upward of two feet in diameter. The land is surveyed, but not brought into market. It is all claimed, however, by settlers. The ruins of the city have been named 'Axtallan,' from an idea which is believed to be prevalent in some parts of Mexico, that there was in ancient times a city of that name, 'in the northern parts of North America.' The American adds the following:—'Compared to other ruins found in various parts of the western country, (New York, Ohio, and Missouri,) it is essentially unlike them in respect to the material of its construction, which in almost every other discovery has been found of earth, generally thrown up in a circular form. This, on the contrary, is of brick masonry, and of rectangular shape. It corresponds, however, in being alike remote from navigable streams, which, it is believed, is universally the case with all the ruins hitherto found. This fact may contribute more than any thing else, to enlighten the further researches of the antiquarian; for it is such an one, rather than the hurrying business talent of the world at present, that will devote any of the precious moments of fleeting time to the investigation of the doubtful past.'—*Sangamon Jour.*

THE CHRISTIAN'S THOUGHTS OF DEATH.

'Dark are the thoughts of death,'
That come unbidden to the laughing hall,
Where pleasure throws her fading wreath
O'er brows of gladness at the festival.
But thou, O king of terrors, thou art he,
To whom, at life's uncertain close, I look,
From these vain dreams of earth to set me free;
Let not my name be blotted from thy book.

'Chill are the thoughts of death,'
To him who only sees the mouldering grave,
The dark damp vault, or hears the night-wind's breath
In church-yard's moan, in stormy wildness rave;
To me such thoughts are passing clouds, that hide—
I know they do but hide,—the rising day;
Beyond is calmness, where no storms abide,
An orb whose glories will not pass away.

'Sad are the thoughts of death,'
That wake at midnight in the guilty breast,
When justice sternly waves the sword of wrath,
And mercy points not to the gates of rest.
To me he comes, the messenger of peace,—
I hear thy call—thou speak'st my Savior's name,—
I know thy voice—thou bidd'st my warfare cease—
To me thou art the prophet's car of flame.

REMARKABLE DISCOVERY.

It is well known to our readers, that among the many natural curiosities found in the extensive caves and grottoes in the vicinity of the Great Laurel Ridge, (Cumberland Mountains,) many human skeletons and bones of animals have been discovered, some of them in a petrified state. These caves abound in prodigious vaulted apartments and chambers, which, when viewed by torch light, exhibit scenes of gloomy grandeur which astonishes the beholder. Several petrified trees have also been discovered on the banks of the river near this ridge, as also bones of mammoths, and other animals whose races are now extinct.

But the most remarkable discovery that has ever been made in this part of the country—if not the greatest natural curiosity in the world, was brought to light on Sunday, twenty-fourth of January, by two scientific gentlemen with whom we are acquainted, and who are now in town. They have been several weeks exploring the caves above alluded to, and gathering such curiosities as they wished to carry away with them.

They are provided for this purpose with a boat of gum elastic, and capable of buoying two persons. With this boat, and other conveniences procured for the purpose, they will, undoubtedly, before they leave their task, penetrate every accessible hole in the West Cumberland mountains—for they are determined to spend the whole season among them.

The wonderful discovery which will now shortly be presented to the public, is *three petrified bodies entire*, one of a dog, and two human bodies, one of them holding a spear. It is believed by these gentlemen that all three of the bodies may be removed from their position in a perfect state—though the dog, being in a lying posture upon a flat rock, it will undoubtedly be a difficult task to remove it uninjured. The human bodies appear to be those of men—probably hunters. Their clothing can hardly be distinguished—but still it is evident that that too was in a measure turned into stone. They are described thus—one sitting, with the head leaned as it were against a projecting rock, and the other standing with a spear balanced in his hand, as though he was surprised, and had just started on a quick walk. The dog lies as if crouched in terror, or about to make a spring—but neither the features, nor the body, are distinct enough to determine which position.

This wonderful formation cannot be accounted for in any other way than that these persons were buried by some terrible convulsion of nature. The cave in which they were found is full 125 feet within the mountain, and is situated about a mile and a half beyond what is called Mammoth Grotto, in a direct line. The entrance to the place is difficult, and it is thought that it was never before attempted at all. At the foot of the entrance of the cave is a considerable brook of water, which appears to gather from all parts of it. There is also a valley thence to the river. The gentlemen who have made this interesting discovery are making active preparations to bring away the bodies, which they intend to have forwarded to New York.

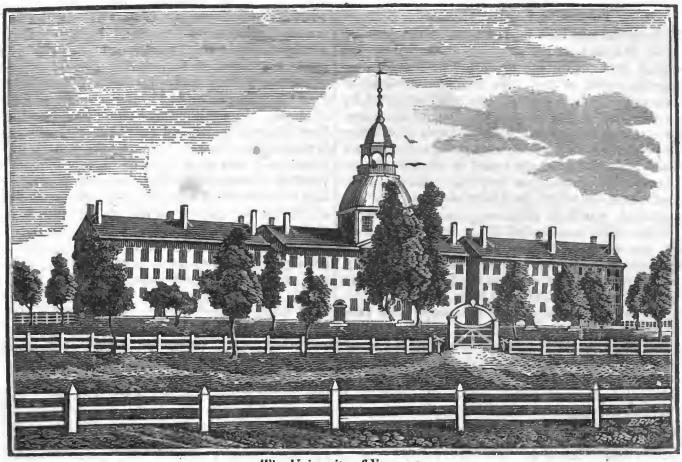
Since the above was written, we have had an invitation to visit the cave and bodies, which we shall most certainly accept. We have hitherto declined to mention the names of the persons to whom we have alluded in this account. One of them is a wealthy English gentleman, resident of Philadelphia, John Chester, Esq. and his companion is Mr. Jacob L. Davis, a Philadelphian. The object of their scientific researches is principally their own gratification. We shall next week give our readers some further particulars relative to the position of the cave, etc. which our visit will enable us to do.—*Hamilton (Tenn.) Observer.*

ANCIENT COINS.

Coins, as connected with inscriptions on stone, are memorials of historical facts, more certain, because more permanent and unalterable, than the writings of the historian. There is not now in existence a single manuscript that was actually written by the hand of any author who lived a few hundred years ago, except perhaps the mutilated fragments buried in Herculaneum or the catacombs of Egypt; but there are many historical documents in metal and marble, which have survived the lapse of more than two thousand years, and are as legible as when they were first published. Such documents, therefore, when known to be genuine, are irresistible evidence which no future historian can controvert, because they are not liable to the corruptions and uncertainties introduced by copyists into manuscripts, which are of necessity transcribed at intervals, as the materials on which the writing was originally made, fall into decay. The study, therefore, of coins and gems, is recommended to our notice by many interesting circumstances; as displaying the most unerring and best preserved monuments of ancient art; as conveying to us the dress and manners of the times to which they belong; as bringing us acquainted with the character and features of the persons they represent; but, above all, as illustrating the events to which their fabrication alludes, and so becoming the standard of history, and the testimony of its truth and falsehood.

But while great pains have been taken to illustrate by their means the historical facts of Pagan Greece, and Rome, there are few who have thought it worth their while to make them subservient to the more interesting details of the spread and progress of Christianity among mankind.

In speaking of Coins, the *obverse* means the principal face, on which is generally placed the head of the monarch; the *reverse*, the opposite side, on which is generally some device. The whole surface is called the *field;* letters on the field are called the *inscription;* letters round the edge, the *legend*. The part divided by a line at the bottom is called the *exergue:* letters in the exergue generally imply the place where the coin was stamped; if several letters form a single character, it is called a *monogram:* these two latter are very obscure and imperfectly known.



The University of Vermont.

UNIVERSITY OF VERMONT.

The buildings of the University of Vermont, of which a view is here exhibited, consist of a centre building, eighty-six feet by forty, and two others, separated from it by small intervals, each seventy-five feet by thirty-two. Of these the centre building is appropriated wholly to the more public uses of the institution. It contains, besides the chapel and a room of the same size with this, appropriated for collections and different departments of natural history, those occupied by the library and philosophical apparatus, two others allotted to the use of two literary societies among the students, with their libraries, and two large lecture rooms. The other buildings were designed for the private accommodation of students, and the rooms which they contain, with the exception of a few at present employed for lecture rooms, are appropriated to that use.

The site of the university is the summit of the ridge, on the declivity of which the village of Burlington is built, at a distance of something more than a mile from Burlington bay, in Lake Champlain, and at an elevation of 250 feet above it. Looking in this direction, therefore, or towards the west, the spectator upon the dome of the centre building has the village immediately under his eye, beyond it the lake, which is here about ten miles wide, with its numerous islands; and still beyond the high lands of New York rise in successive ranges, till the view is bounded by the most lofty of these at the distance of from forty to fifty miles. Towards the north-west and north the view is much more extensive, embracing the expansion of the lake in that direction with its larger islands, several villages upon its opposite shore, and the more level country beyond, unlimited in some parts of the range by any distinct elevation of country. In all the easterly directions the view, after embracing the range of the Winooski river, which, in the more immediate vicinity, winds for several miles through an extensive and beautiful tract of meadow lands, is terminated at different distances from thirty to sixty miles by the ridges of the Green mountains, the highest elevations of which form very striking and majestic pictures of the landscape. More directly south, though the view is extensive, it is marked by nothing particularly noticeable. In the south-west, however, after embracing a broad expanse of the lake and some small villages on the opposite shore, the eye rests upon that wilderness of mountains, which extends northwardly from Lake George, and in which the numerous branches of the Hudson on the one side, and the streams running into the lake on the other take their rise. In this direction more than a hundred distinct summits may be counted, all of them elevated, and many among them bold, with naked and precipitous declivities. The entire range of natural scenery here presented, with the endless variety of aspects, which it presents with the change of the seasons, has been generally regarded by travellers among the finest in the United States, and, as the site of a literary institution, is seldom equalled.

The buildings of the university, here exhibited, are now fully occupied, and the need of others begins to be felt. The library referred to, is almost entirely new, having been purchased in Europe during the past year, with great care, and is peculiarly select. It contains near 7000 volumes, and those of the literary societies from 1500 to 2000 each. The philosophical apparatus, also, has been purchased during the last year, at a great expense, and selected with care.

DIOCLETIAN AND MAXIMIAN.

Diocletian was born in Dalmatia, in the year of Christ 245, and on the death of Numerianus, was saluted emperor by the army at Chalcædon, near Constantinople, in 284. He was himself a man of mild, philosophic character, but was instigated by his colleague in the empire, Galerius Maximianus. This atrocious man was born in Dacia: his father was unknown, but he himself gave out, that his mother conceived on the banks of the Danube by Mars, in the shape of a serpent. Among other observances by which the Christians were now distinguished, was their abstaining from meats offered to idols. This so offended the mother of Galerius, that she made it a pretext for urging her son to prosecute them, who was before greatly inclined to it, and availed himself of the first favorable opportunity to effect his purpose. He had been successful in the Persian war, and was passing the winter with Diocletian, in his palace at Nicomedia, where the subject of their secret conversation was the fate of Christianity. Diocletian, from the innate moderation and humanity of his disposition and his studious and contemplative habits, was both by nature and education averse from measures of cruelty; he consented at first to exclude Christians from offices in the state, hoping that such a concession would exempt him from proceedings of more severity. But Galerius obtained permission to summon a council of the most distinguished military and civil officers, and submit to them the question: meantime the Christians, apprised of what was in agitation, waited in silent and anxious expectation for the terrible result, which was to put to death every man living who professed the religion of the Gospel, and so at once extirpate Christianity. The council met; they agreed in opinion with Galerius, and Diocletian at length consented to issue those exterminating decrees which have justly stigmatized for ever the character of that emperor. It is to be regretted that those most solemn and important edicts have not been handed down to us in a whole and perfect form, as some of minor consequence have been. The particulars are only to be collected from scattered passages in Eusebius and Lactantius. Orders were at first given to burn the books of the Christians, destroy their churches, punish those who observed the Lord's day, and put to death all who frequented secret assemblies. This latter distinctive character of the Gnostic sects was supposed to include the whole body of Christians, equally charged with their hidden atrocities. The time fixed as for the execution of the edicts was the Feast of *Terminalia*, in the year 302, which historians remark was to put a final *termination* to Christianity; and at the dawn of morning a præfect of the Prætorian band commenced the persecution by entering the principal church of Nicomedia; he first burned the sacred Scriptures, and then regularly sacked and destroyed the edifice; the next day the tremendous decree was every where published, and the bloody massacre commenced. The manner in which this was carried on, is evidence that the perpetrators thought they were exterminating an impure and ferocious race, to spare whom would be mercy misplaced, and an injury to society. Eusebius describes what he himself was eye-witness to, and the details are too terrible to particularize. He was in the distant province of the Thebais, in Egypt, removed it might be supposed from the centre and fierceness of the persecuting spirit; yet there he saw one hundred Christians destroyed in a day by different kinds of death. In some instances axes were blunted on their mangled limbs, and their executioners so tired with slaughter, that it was necessary to send for fresh men and new implements to complete the work of destruction. If this was the case in a distant province, what were they to expect immediately under the eye, and within the grasp of their inveterate persecutors. The whole of the Roman empire was at this time filled with them; and there was not a province, city, town, hamlet, garden, or cottage, in which diligent pursuit was not made for them. The few that escaped by chance fled to the most solitary deserts from the haunts of their fellow men; and there remain in the Gulf of Nicomedia and other remoter places in the East, caverns in the sides of nearly inaccessible mountains, where they endeavored to find refuge and concealment, during this dismal period. Many of the saints and martyrs recognized by the Greek church perished on this occasion, and they still shew in the church of St. Euphemia, at Chalcædon, the implements of torture by which she and numbers of her friends were put to death. In this way historians assert that in one province alone 150,000 Christians perished by various kinds of cruel deaths; and so complete was supposed to be the extirpation of the sect, that coins were struck and the following inscriptions set up, recording the fact that the Christian superstition was now utterly exterminated, and the worship of the gods restored by Diocletian, who assumed the name of Jupiter; and Maximian, who took that of Hercules.

'Diocletian Jove and Maximian Hercules, August Cæsars, having increased the Roman empire in the east and west, and extirpated the name of Christians who were overturning the Republic.'

'To Diocletian Cæsar and Augustus Galerius in the east, having every where extirpated the Christian superstition and restored the worship of the gods.'*

The Christian writers do not fail to record many marks of divine anger displayed on this occasion. The palace of the emperor was struck with lightning and immediately consumed, which so affected him, that he continually saw flashes of fire before his eyes, and he was seized with a dangerous fever, from which he with difficulty recovered. He soon after abandoned the empire to his colleague, and retired to a private station, in which he died of grief and abstinence, having obstinately refused all aliment; while his more atrocious colleague, Galerius, having exercised against all his subjects that avarice and cruelty, which he began by practising on the Christians, was wasted away with a consuming and loathsome disease, and died with great horror. Without having recourse to supernatural interposition, we may easily suppose that such would be the

* These inscriptions were found on beautiful columns at Clunia, in Hispania Taraconensis.

natural effects of reflection and remorse on men whose conscience was burthened with the cruelties they had perpetrated.

On one of the coins of Diocletian, the obverse represents the head of the Emperor Diocletian, crowned with laurel, and his shoulders covered with a robe, with the legend, DIOCLETIANVS PERPETVVS FELIX AVGVSTVS.—'Diocletian, perpetual, happy, august.' On the reverse is Jupiter holding in his raised hand a thunderbolt, and trampling a kneeling figure, with serpent-like feet, having the legend IOVI FVLGERATORI—'To Jupiter the thunderer.' A prostrate figure designates Christianity, and the figure of Jupiter brandishing his thunderbolt, is taken probably from Ovid's description; he is dashing down the Christians with the same fire as he hurled down the Titans, who had equally but vainly tried to dispossess him of heaven.

A coin similar to that of Diocletian was struck by his colleague, Maximian, to commemorate an event in which he had acted so distinguished a part.

On a coin of Maximian, the obverse represents the naked bust of the emperor, crowned with a wreath of laurel, having the legend MAXIMIANVS PERPETVVS AVGUSTUS. On the reverse is the figure of Jupiter Tonans, in nearly the same attitude, and with the same legend as the former, but having his head covered.

CONSTANTINE THE GREAT.

When, according to all human calculation, by the persecutions of Diocletian and Maximian Christianity was abolished from the world, the hand of Providence was visibly stretched out for its preservation. The world immediately after saw, with astonishment, that it became more vigorous and flourishing than ever; and the head of the mighty Roman empire adopted its tenets from a conviction of its truth, at the time when its enemies were boasting of its total destruction, on account of its falsehood.

Constantine, the son of Constantius Clorus, who governed Britain and Helena, a woman of obscure birth, who had embraced Christianity, was born in the year 274, and was early instructed by his mother in her own doctrines. For some time after he came to the imperial throne, he still adhered in public to the rites of heathenism. All his early coins bear the impress and inscription of heathen worship, being frequently inscribed 'JOVI CONSERVATORI,' *to Jupiter the preserver*, or are dedicated to other deities of heathen mythology. He was, however, completely converted, and publicly acknowledged his conversion, in the year 312. This, according to the ecclesiastical writers of those times, was effected, like that of Saint Paul, by a sensible miracle while he was performing a journey in a public road. He was opposed, after his elevation to the imperial purple by Maxentius, a man of furious passions, gross and sensual habits, and a cruel persecutor of the Christians. Constantine was in Gaul, and having heard of the opposition of his rival who was in possession of Rome, he immediately crossed the Alps and proceeded against him. When near Verona, on his march and meditating on the difficulties of his situation, it is said, he was suddenly aroused from deep thought by a bright light which suddenly illumined the sky, and on looking up, he saw the sun, then in its meridian, surmounted by a cross of fire, and beneath it an inscription in Greek, signifying *with this conquer*. He immediately adopted the cross as his ensign, and formed, on the spot, the celebrated *labarum*, or Christian standard, which was ever after substituted for the Roman eagle. This, as Eusebius describes it, was a spear crossed by an arrow, on which was suspended a velum having inscribed on it a monogram, formed by the Greek letters *chi* and *rho*, the initials of the word *Christ*.

Under this he marched forward, and rapidly triumphed over all his enemies; and being struck with the preternatural warning he had received, and its consequences, he now publicly embraced the doctrines of that religion under whose banner he had conquered. In a short time after this he removed the seat of empire from Rome to Byzantium, which was thenceforward called Constantinople. Here he struck upon his future coins an impress and legend alluding to the extraordinary events of his conversion, and no more traces are to be found on them of pagan emblems. In one of his coins, the obverse represents the unclothed bust of the emperor crowned with a wreath of laurel, and surrounded with the legend FL. VAL. CONSTANTINVS, P. F. AVG. *Flavius Valerius Constantinus, Perpetuus, Felix, Augustus*, Flavius Valerius Constantine, Perpetual, (holding perpetual authority, not like the consuls, for a year only,) happy, (successful, or irresistible,) august, (holding the power and dignity of the empire.)

The reverse shews a full length figure of the emperor, covered with a helmet, standing on the prow of a galley, which was a common emblem of power among the Romans, in his right hand a globe, surmounted by a rayed phenix, the adopted emblem of his family, to intimate the renovation of his empire; in his left is the labarum, inscribed with the monogram before mentioned, and behind him the angel of victory directing his course; round the whole is the appropriate legend FEL. TEM. REPARATIO, *Felix Temporum Reparatio*, 'The happy reformation of the times.' In the exergue are the letters P. T. *Pecunia* Trevorum, money of Treves, or Triers.

The last important event of Constantine's life was also commemorated by a coin. He had deferred his baptism, till sickness and debility admonished him of his approaching death. He had been in a declining state of health, and proceeded to the warm baths of Helenpolis, a town in Nicomedia, which he had called after his mother, in the hope that they would restore him. After some time spent in vain trials of their efficacy, he caused himself to be removed to the pleasant suburbs of Nicomedia; and as the feast of Pentecost was now at hand, he expressed a strong desire to have this important ceremony performed. He therefore called the Christian bishops around him and made them an address.

'The time now demands,' 'said he, 'that I should partake in this seal of salvation. It was my

intention to have proceeded to Bethabara and receive this solemn rite in the waters of Jordan, in public imitation of my Lord, but God best knows what is expedient, and his will be done.'

Every preparation was therefore made for the ceremony, and it was performed by the bishop of Nicomedia. It appears from Eusebius and other authorities, that it was the usual practice, for those who could command the opportunity, to go to Palestine to be immersed in the waters of Jordan, as Constantine had intended. He appeared deeply impressed with the ceremony, and caused himself to be clad in a white robe, as emblematic of the purity it conferred; and in this robe, which he never laid aside to resume the purple, he died. This event took place soon after the ceremony, in the year 337, at the hour of midnight, at the feast of Pentecost, after a reign of thirty years; he having been the first sovereign who had ever received the rites of baptism.

A coin was struck at London, probably after his death, in which the obverse represents the emperor in his robes, crowned with a wreath of laurel, having the legend IMP. CONSTANTINVS, P. F. A. *Imperator Constantinus, Perpetuus, Felix, Augustus;* the reverse shews a full length figure of the emperor, with a cloak, holding in his outstretched hand a globe, on which the cross had not yet been placed, and in his left a rod or wand, and the legend CONSTANTINO P. A. BAP. NAT. *Constantino Pio Augusto Baptismate Nato,* 'To Constantine, Pius, August, Regenerate in Baptism. In the exergue are the letters P. L. C. *Pecunia Londini Cusa,* money coined at Rome.

The idea that the ceremony of baptism confers some peculiar advantage to persons submitting to it, instead of its being merely a mode of making a profession of faith, and an acknowledgment of an obligation to live a life of holiness and purity, seems to have prevailed in very early times, and still continues among some sects of Christians. Some mysterious efficacy seems to have been attributed to it, and hence the great advantage of going to the Jordan for the performance of it.

WILD ANIMALS FROM AFRICA.

A letter from the Cape of Good Hope, has recently been received by a gentleman in this city, from which the following extract, published in the Columbian Centinel, is taken. We are pleased with every prospect of an addition to our knowledge of natural history. The advantages of an undertaking like that mentioned in the letter, is not confined to the gratification of the curiosity of children and youth. It makes us better acquainted with the world, and prepares the way for the fulfilment of the command to subdue it. We hope soon to see measures taken more thoroughly to explore our own continent for similar purposes.

'The dull monotony of the settlement has recently been enlivened by the sudden, and almost unhoped for, arrival of Mr. Clayton; who, after an absence of two years in the interior, most unexpectedly burst upon us—and, contrary to universal opinion, his determined exertions have been crowned with the most brilliant success.

'Mr. C. was originally employed in 1833, by two gentlemen of Boston—Messrs. Macomber (at present of the Elm street Hotel,) and Handy—who, with a spirit of enterprise worthy the support of an enlightened public, and commanding the gratitude of every student of natural history, undertook the novel experiment of journeying to this remote quarter, for the purpose of ensnaring the ferocious natives of the desert. Domestic circumstances rendered it absolutely necessary the original adventurers should return to America; they did so, after many severe privations endured in the pursuit of their hazardous calling. Mr. Clayton was left by them to conduct the hunting expeditions; certainly he deserves much credit for the unceasing exertion, and untiring industry, displayed in the dangerous experiment, the perils of which can only be known by trial.

'To elucidate the hitherto uncertain and unknown effect of reducing these foes of the human race, at once from a state of pristine and savage vigor to *absolute subjection,* was his object,—and nobly has he accomplished it. Others have succeeded in taming these monsters, it is true,—but how? The question is easily answered—they have captured them when young, and reared them in a manner calculated to subvert their original nature—he has done more. Exposed to the hostility of the starved and savage tribes of negroes with which the uncultivated interior abounds, and experiencing privations, in detail almost incredible—he has, nevertheless, pursued the even tenor of his way, and on his arrival here presents to our residents a spectacle, commanding at once the wonder, and I may almost add, the adulation of our fellow men. His entry into town was attended by thousands; with acclamation they hailed the appearance, amongst others, of the majestic, the beautiful giraffe, eighteen feet in height; five others follow in his train, the largest of which measures fifteen, the smallest ten feet. Two specimens of the double horned white rhinoceros, certainly the first ever seen here; and, that judgment may be made of the whole animal creation, we have before us three of the *antelope* species, only to be found in the remote sections of this vast continent; the Coedoe, the Kemps buck and the Harty buck. The plumage of the black ostrich is beautifully developed in the sample we have before us.

'While gazing on this sublime spectacle and the vast multitude assembled to witness the exhibition, I could not refrain from giving utterance to a sentiment of pride, awakened by the reflection, that with all their advantages on this coast, no European nation ever yet accomplished or attempted an enterprise that could vie with this. The natives born and indigenous to the soil, shrink with terror from these lords of the wilderness and desert in the wild state, yet, reduced to subjection, they flock in thousands to gaze with wonder and admiration upon the abject state, to which, not only the savage prowlers of the forest, but even themselves, appear to be reduced by the undying energies of my countrymen.

'Hitherto I have wondered, how the vast expense incurred could by possibility be liquidated. This morning a private conversation with Mr. Clayton,

threw a new light upon the subject. He informs me, a vast and general Institute has been formed in the United States, by which the expenses on this continent are met, and that the great assemblage of the brute creation will shortly be shipped for Boston, where, I am certain, the liberality of our citizens, and citizens generally of the Union, will amply compensate for the almost unbounded outlay of the original furnishers of the outfit.

'My inclinations point to home—I may say with truth, 'I yearn for my country and my father's fireside,' still we are comfortable here—the colony is in a quiet and flourishing condition—the Caffres are at last subdued and peaceable—the influx of strangers is unprecedented—the arrivals from Europe within the last thirty days amount to five thousand, principally bound to Australia, which, if common report may be credited, is the most fertile spot on the habitable globe. There is an old maxim, 'common report is a common liar'—in this respect I believe in old sayings; after travelling over the greatest portion of the world, I must say America is my home—the wide waters—the cheerful cities—the pathless woods—the fertile vallies and majestic hills of my native land are greater in my estimation and dearer to my heart than any thing yet encountered abroad.'

ANCIENT CHRISTIAN MEDAL.

The coin, or rather medal, of which we have given a representation above, was found, in 1812, by a little girl, the daughter of an Irish laborer, while picking up potatoes, dug by her father, which had grown upon the site of an ancient monastery, in the county of Cork, in Ireland. The probability that it had been brought thither by some member of the religious community at a very early period, the monastery itself having been coeval with the first introduction of Christianity into that country, made it an object of great interest. Not long after, the Rev. R. Walsh, who has given an account of it in his essay on ancient coins, medals and gems, obtained a similar one from a Polish Jew, at Rostoc, in Germany. The latter upon comparison appeared to be an exact counterpart of the former. The obverse represents the head of our Savior, as it is described in the letter said to have been sent by Lentulus to Tiberius; his hair divided after the manner of the Nazarenes, plain to the ears, and waving on the shoulders; his beard thick, not long, but forked, the face beautiful, and the bust fine, with the tunic falling over the whole in graceful folds. On the obverse is also the Hebrew letter *aleph*, the first of the alphabet, and a Hebrew inscription of the name Jesus. On the reverse is a Hebrew inscription, which may be thus translated: *The Messiah has reigned; he came in peace, and being made the light of man, he lives.*

It appears by the testimony of different writers, that this medal had been a subject of inquiry for several centuries, immediately succeeding the revival of learning in Europe, after the period usually denominated the dark ages, and that several inferior copies of it had been taken; it was then considered not to be a coin, but a tessera, or amulet, struck by the first Jewish converts to Christianity, and worn by them as a pious memorial of their Master; and finally, that the date was indicated by the letter aleph on the obverse, which then, as well as afterward, represented the number one, and referred to the first year after the resurrection, as the time it was struck.

Many learned Jews to whom it was shewn, concurred in this conjecture. It was seen by Theseus Ambrosus, whose work is of great rarity and antiquity, and was described as a great curiosity in the pontiferate of Julius II. the immediate predecessor of Leo X. the reviver of learning in Europe. This fact is sufficient to prove that it existed at that time, and was one of the objects of ancient art which then engaged the attention of the learned. The circumstance of its wanting a nimbus of glory around the head, affords a presumption amounting almost to a certainty, that it is more ancient than the seventh century, for at that time this symbol of sanctity was adopted as a distinctive mark of sacred persons, and it was considered impious to depict them without it.

The metal of which it is composed is a singular composition. It is much paler than brass, and does not tarnish by exposure, and might be mistaken for gold were it not much lighter, its specific gravity being only 8.45. It is also so sonorous that it might well be supposed to be the metal alluded to in the New Testament, in the expression '*sounding brass*;' its sonorous qualities no more giving it the value of gold, which it resembles in appearance, than the gift of tongues gives value to the moral character of the man, who is destitute of that charity which is the vital principle of all true religion.

The resemblance of the head on this medal to modern paintings representing our Savior, is such as to shew that if the latter are not derived more or less directly from the former, they must at least have had a common origin.

CHAMPLAIN.—*A Fragment.*

When o'er Champlain the breeze of evening blows,
With rosy light the level sunbeam glows.
A range of mountains courts the latest ray,
That flits across the lake and shuts the day;
No lyric names to those green hills belong;
Those mountains ne'er were famed in classic song.
But not less proudly do they raise their heads,
Than famed Parnassus, where Apollo treads.
The nymphs divine, that o'er the lyre preside,
Through Greece diffused the taste for music wide;
But here, though soft the dews of evening fell,
Were heard the prowling wolves' and warriors' yell.
Stern winter here assumed his wildest form,
As o'er our hills careering, howled the storm.
And yet the cheerful spring serenely smiled,
And summer's noontide airs were soft and mild.

THE SEA OF TIBERIAS.

[From Lamartine's Pilgrimage to the Holy Land.]

The country which a great man has inhabited and preferred during his passage on earth, has always appeared to me the surest and most speaking relic of himself:—a kind of material manifestation of his genius,—a mute portion of his soul,—a living and sensible commentary on his life, actions, and thoughts. When young I passed many solitary and contemplative hours, reclined under the olive trees which shade the gardens of Horace, in sight of the delightful cascades of the Tiber; and often have dropped to sleep in the evening, lulled by the noise of the beautiful sea of Naples, under the hanging branches of vines, near the spot where Virgil wished his ashes might repose, because it was the most delicious site his eyes had ever beheld; and I have been thus attracted with respect to several other authors and great men, whose names and writings were deeply engraved on my memory. I wished to study them, to become acquainted with them on the spot that had given them birth, or that had inspired them; and almost always a scrutinizing glance might discover a secret and profound analogy between the country and the individual who had graced it; between the scene and the actor; between nature and the genius which derived its inspirations therefrom.

But it was no longer a great man, or a great poet merely, whose favored residence here below I visited. It was the man of men,—the man divine; nature, genius, and virtue, themselves become flesh; the incarnate Divinity whose traces I had come to adore on the very spot where he sojourned,—on the very waves that bore him—on the hills on which he sat; and on the stones whereon he had reposed his head. He had with his mortal eyes seen this sea, these waves, these stones; or rather, this sea, these waves, and these stones had seen him. He had trodden, a hundred times, that path in which I now respectfully walked; his feet had raised that same dust which mine now raised. During the three years of his divine mission, he went and came without ceasing from Nazareth to Tiberias, from Tiberias to Jerusalem. He had sailed in the barks of the fishermen of the sea of Galilee. He calmed its tempests, he walked on its waves, giving his hand to the apostle of little faith, like me,—a celestial hand, of which I have greater need than he had, in the tempest of opinion, and of thoughts still more terrible!

The great and mysterious scene of the gospel passed, in fact, almost entirely on this lake, the borders of this lake, and the mountains which surround and overlook it. Behold Emmaus, where he chose at hazard his disciples, amongst the meanest of mankind, to testify that the strength of his religion was in the doctrine itself, and not in its powerless organs. Behold Tiberias, where he appeared to St. Peter, and founded in three words the hierarchy of his church—behold Capernaum—behold the mountain where he delivered the fine sermon of the mount—behold that on which as Son of God he manifested the heavenly beatitudes—behold that from which he said, I have compassion on the people; and multiplied the loaves and fishes, even as his word creates and multiplies life in the soul,—behold the gulf of the miraculous fishing—behold, in fine, the entire gospel with its affecting parables, and its tender and delicious images, which appear to us such as they appeared to the hearers of the divine Master, when he pointed out to them with his finger—the lamb—the fold—the good shepherd—the lily of the valley;—behold, to conclude, the country that Christ preferred on earth; that which he has chosen for the exordium of his mysterious drama; that wherein, during his obscure life of thirty years, he had his parents and his friends, according to the flesh; that wherein nature, of which he had the key, appeared to him with the greatest charms,—behold these mountains from whence he saw, like us, the sun rise and set, in revolutions which measured so rapidly his mortal days,—here did he successively repose, meditate, pray, and cultivate love to God, and benignity to man.

For the American Magazine.

THE AGED ESQUIMAUX.

In Franklin's 'Expedition to the Polar Regions,' it is mentioned, that a very old man among the Esquimaux Indians, on beholding, for the first time, his face in a mirror, started back with the wildest emotions of surprise and horror.

Thou nameless wanderer, old and grey,
  Why flees the life-blood from thy heart,
When first that strange, reflected ray,
  Reveals thy features' wrinkled chart?

See'st thou the steps of years gone by,
  Dark years of roaming want and care?
Their image in thy sunken eye?
  Their snows amid thy scatter'd hair?

Thou see'st, alas, what all must trace,
  Who linger long on Time's cold tide,
The wreck of vigor, health and grace,
  Which youth so fondly hopes to hide.

But has thy subterranean cell,
  Where frost benumbs the power to feel,—
Thy rein-deer robes, of woe that tell,
  The miseries of thy famish'd meal,—

Rude icy rocks incessant pil'd,
  The howling storm's impetuous strife,
Thy sunless, shrubless, wintry wild,
  A charm to bind thy soul to life?

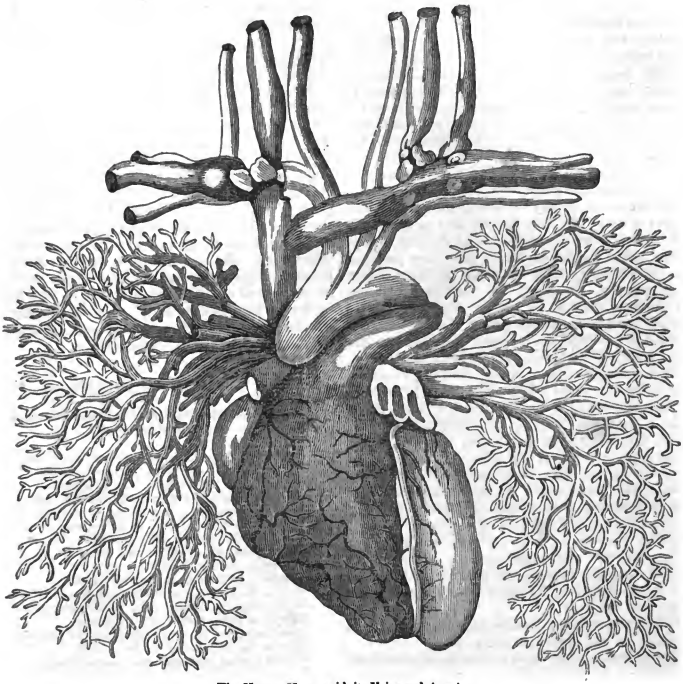
One glass there is, and one alone,
  Which paints with radiance pure and free,
Man's victory o'er the latest groan;
  But who shall hold that glass to thee?

Say, who shall bid those eyes, that stream
  To mark thy withering, wasting clay,
Exult to see its loop-holes beam
  With lustre of eternal day?

L. H. S.

THE STORK. (*Ardea Ceconia.*) It lives not only on amphibia, but also destroys useful animals—whole broods of partridges, for instance. It frequently carries linen, thread, &c. to its nest, for the purpose of lining it.

THE SUCKING-FISH. (*Remora.*) This singular animal can attach itself most firmly, by means of the grooves on the back part of its head, to ships, sharks, &c. Hence the fable that it will stop a ship in full sail.



The Human Heart, with its Veins and Arteries.

THE HEART.

This organ, so important to life, with the lungs, fills the entire cavity of the chest. In its structure it is a hollow muscle, and is enclosed in a sac, called the pericardium; or, in common language, the heart-case; which serves the double purpose of keeping the heart in its place, and of preparing a fluid, by which the motions of the organ are rendered free and easy. Its situation is rather to the left of the median line of the body; in contact at the sides and back with the lungs, in front with the sternum or breast-bone, and below with the diaphragm or midriff. It is of a conoidal shape, with the base of the cone upwards, backwards, and inclining a little to the right side; the apex, of course, in a contrary direction, and reaching to about the level of the fifth rib. This part it is which gives rise to the beats of the heart, and hence they may generally be felt between the fifth and sixth ribs, a little to the left of the breast bone. The weight of a medium sized heart, though it varies of course with the size of the person, and with the state of his health, is about six ounces; its greatest length is from the apex to the base, and is about five and a half inches; its base about three and a half inches in diameter. The organ is, as we have said, a hollow muscle, composed of fibres; arranged, some of them in a horizontal and others in a vertical direction; an admirable contrivance, by means of which, when they contract, to diminish, and thus force the blood from the cavities of the heart. Its cavities are four in number, namely, two auricles and two ventricles; or two receiving and two propelling cavities; separated from each other by muscular partitions. The auricles form the base and the ventricles the apex of the heart.

There are two kinds of blood; the *black* or venous, carried in vessels called the veins, and the *red* or arterial, carried in vessels called the arteries. The venous blood collected by an innumerable number of veins from all parts of the body, which finally form two large ones, is returned to the right auricle of the heart; and thence through an orifice in the muscular partition, of which we have spoken, it passes to the right ventricle; from which it is sent by means of the pulmonary artery to the lungs. Here the blood is subjected to the influence of the air, and the change of the black blood to the red is

effected. How this change is accomplished, what it receives from the air, or loses from itself, is not definitely and certainly known. In the lungs the blood collected by the pulmonary veins is returned through them to the left auricle; and thence, in the same manner as on the right side, it passes to the left ventricle, to be distributed by means of the aorta, or great artery, to all parts of the body. The orifices of the vessels connected with the heart are guarded by valves, which open and close like flood-gates, giving to the blood its proper and right direction and presenting, while in health, an important barrier to any unnatural deviation. The cavities of which we have spoken, vary in the thickness of their sides, proportionate to the importance of their office and the amount of labor they perform. The left ventricle, that from which the blood is sent to all parts of the body, has the strongest and the thickest walls of all, and is supported inside with innumerable muscular pillars, if we may so call them, which, beside the support they give to the cavity itself, aid materially in the force and energy of the contractile efforts; while the right ventricle, from which the blood is sent only to the left side of the heart through the lungs, is much thinner in its walls. The whole inside of the heart is lined with a fine delicate serous membrane, like that which covers its outer surface, and whose diseases play an important part in the physiological actions of the organ. We have then in the human body two distinct circulations, a lesser and a greater; the former from the right to the left side of the heart, through the lungs; in which course the remarkable change in the qualities and appearance of the blood is effected; and the latter from the left to the right side, in which course the blood visits and nourishes all parts of the body.

This organ, as might well be supposed, is the seat of numerous and important diseases.

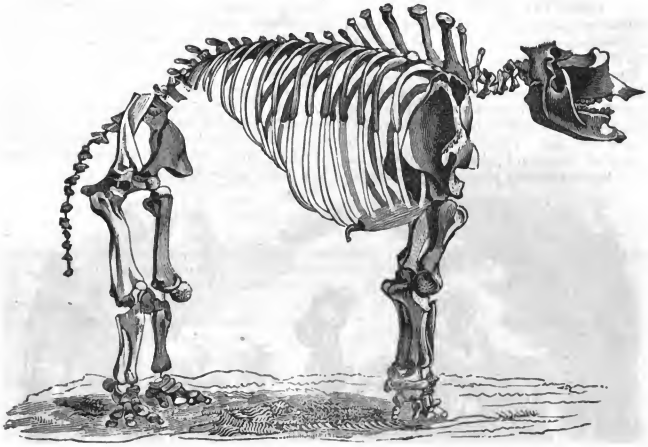
The pulsation of the arteries and the contractions of the heart are apparently constant. During the rest of the other organs of the body, this is apparently at work; so that at first sight and to a casual observer it would seem that its motions are constant and without interval. This, however, is not the case; in its operations it follows the universal law of all other muscular organs; viz. that a time of excitement must be followed by a season of rest. Now in examining the motions of the organ, we find that this season of rest is found intervening between its beats, and amounts to nearly half of the time; that is, if there be sixty beats in a minute, the whole labor will be accomplished in thirty seconds; allowing the same time, or in truth somewhat more, as a time for repose. Some idea of the velocity with which the blood moves, and the labor which the heart performs, may be obtained from the following computation, which may be found in an anatomical work. 'Each ventricle will contain an ounce of blood; the heart contracts four thousand times in an hour; hence there passes through this organ every hour four thousand ounces, or three hundred and fifty pounds of blood. Now the whole mass of blood is said to be about twenty-five pounds; hence a quantity equal to the whole mass of blood passes through the heart fourteen times in an hour, or about once in four minutes.' How wonderful and admirable the mechanism by which, through a long life, this little organ so constantly and without our bidding shall perform its functions—functions coexistent and identified with life.

How or by what means is this constant and perpetual motion maintained? We answer, principally by the stimulus of the blood as it enters the cavities Every organ in the body seems adapted by its peculiar organization to be affected and called into healthy action by some peculiar and appropriate stimulus. As for instance, light is evidently the proper healthy stimulus for the eye; sound for the ear; odors for the nose; food for the stomach; and no one of these organs can change the relation of their action; the eye is unaffected by sound, and the ear by light. In the same sense may the blood be considered as the proper stimulus for the heart; so that by their mutual action upon each other this wonderful and life-giving mechanism is kept in constant and harmonious operation.

ADVICE TO FEMALES.

[From 'The Search after Happiness,' by Hannah Moore; written at the age of seventeen.]

Urania. As some fair violet, loveliest of the glade,
Sheds its mild fragrance on the lonely shade,
Withdraws its modest head from public sight,
Nor courts the sun, nor seeks the glare of light;
Should some rude hand profanely dare intrude,
And bear its beauties from its native wood,
Exposed abroad its languid colors fly,
Its form decays, and all its odors die;
So woman, born to dignify retreat,
Unknown to flourish, and unseen be great;
To give domestic life its sweetest charm,
With softness polish, and with virtue warm;
Fearful of fame, unwilling to be known,
Should seek but Heaven's applauses and her own.
Hers be the task to seek the lonely cell,
Where modest want and silent anguish dwell;
Raise the weak head, sustain the feeble knees,
Cheer the cold heart, and chase the dire disease.
The splendid deeds which only seek a name,
Are paid their just reward in present fame.
But know, the awful, all disclosing day,
The long arrear of secret worth shall pay;
Applauding saints shall hear with fond regard,
And He who witnessed here shall there reward.
In vain, ye fair, from place to place ye roam,
For that true peace which must be found at home.
No change of fortune, nor of scene, can give
The bliss you seek—which in the soul must live
Then look no more abroad; in your own breast
Seek the true seat of happiness and rest.
Nor small, my friends, the vigilance I ask,
Watch well yourselves; this is the Christian's task.
The cherish'd sin by each must be assail'd,
New efforts added where the past have fail'd;
The darling error check'd, the will subdued,
The heart by penitence and prayer renewed.
Nor hope for perfect happiness below,
Celestial plants on earth reluctant grow.
He who our frail mortality did bear,
Though free from sin, was not exempt from care.
In its true light this transient life regard;
This is a state of trial, not reward.
Though rough the passage, peaceful is the port,
The bliss is perfect, the probation short.
Of human wit beware the fatal pride,
A useful foll'wer, but a dangerous guide;
On holy faith's aspiring pinions rise,
Assert your birth-right and assume the skies.



Skeleton of the Mastodon.

THE GIGANTIC MASTODON.

This animal is known only by its bones. The massy pillars which give support to the bones of the body, the arched spine, and the great size of the whole frame, are so many demonstrations of the great dimensions and enormous strength of the living animal. Let these bones be supposed to be covered with flesh and a hide, attach a trunk like that of an elephant to the short neck and head to enable it to reach the ground, impart the breath of life to his nostrils, and insert in the upper jaw a pair of tusks of ivory ten or twelve feet long for defence, and we shall have such an animal as once lived on the American continent. The largest elephants now in existence, would not equal him in height by two or three feet; for his whole height could hardly have been less than from thirteen to fifteen feet.

When did he live? Whether before or since the rocky mountains were raised from their deep foundations, none can tell. The race has probably been extinct for ages. If, as geologists have conjectured, there was ever a time when the climate and the productions of the torrid zone extended to our northern latitudes, he must be referred to such a period.

The bones were at first supposed to belong to a large species of the elephant, denominated the mammoth; but the form of the teeth, ribs and other bones, clearly distinguish him from the mammoth, though the animal must have resembled the modern elephant in its general formation and mode of life.

The bones of the mastodon have been discovered at *Big-bone Lick*, in Kentucky, on a branch of the White river which empties into the Wabash, in various parts of Louisiana, west of the Mississippi, in Carolina, on the North-Holston river, a branch of the Tennessee, in Wythe county in Virginia, in Chester near Goshen in New Jersey, on the banks of York river, six miles east of Williamsburg in Virginia, at the Salines of the great Osage river, near Long branch, in Monmouth county, New Jersey, and lastly at Vicksburgh in the State of Mississippi, while excavating for a rail-road within the limits of the city.

The most perfect skeleton of the mastodon which has yet been obtained is in the Philadelphia Museum. The first bones were found in 1799, at Newburgh, on the Hudson, sixty-seven miles from the city of New York. The remainder which could be found were dug out of a morass, by the enterprise of Charles Wilson Peale, and other bones to supply deficiencies, were taken from another morass, in the middle of a marshy forest, about twenty miles west from the Hudson. There were parts of three skeletons. From these, two skeletons were formed, by supplying deficiencies of the two most perfect from the third, and from exact imitations from the real bones; and the gigantic frame-work of the largest animal which is known ever to have trod upon the earth, stood erect. Nothing was wanting but the summit of the head and the tip of the tail. The character and habits of this huge tenant of the forest were fully developed. There is no certain or probable ground to suppose, that the eye of man had ever seen him in the days of his strength. But he will be the wonder of ages yet to come.

Chaetocton rostratus.—A fish found in the East Indies. Its upper jaw ends in a tube, through which the fish throws water upon the insects on aquatic plants, so that they fall, and become its prey.

ORIENTAL SCENERY.

The following specimen of letter-writing is taken from the correspondence annexed to the narrative of Bishop Heber's journies in India, in 1824, 1825, 1826. The author, if he had been an American, would have signed his paternal name, instead of his title of office, when writing a mere private letter to a young lady. But such is not the fashion with the bishop of Calcutta. The place of the date is in the province of Bengal, of which Calcutta is the capital. It would probably please many of our fair country women to receive letters occasionally from their friends, beginning and closing with a handsome drawing. Such letters would be particularly pleasing to the editor and publisher of the American Magazine.

The skill requisite for drawing representations of common objects is more easily acquired than is generally supposed, and if it were a little more common, it might be imparted without difficulty to all who have a taste for it, and would be found to be a source of much pleasure.

TO MISS DOD.

Tittyghur, February 26, 1824.

Such, my dear Charlotte, is a fair sample of the appearance and condition of some forty millions of peasantry subject to British rule; very poor as their appearance sufficiently indicates, at least in those points where an Englishman places his ideas of comfort and prosperity; yet not so poor, and not by any means so rude and wild as their scanty dress and simple habitations would at first lead an Englishman to imagine. The silver ornaments which the young woman wears on her ancles, arms, forehead, and in her nose, joined to the similar decorations of her children's arms, would more than buy all the clothes and finery of the smartest servant-girl in England; and the men are in all probability well taught in reading and writing, after their own manner; while the little boy, perhaps, is one of my scholars, and could cast an account and repeat the Lord's prayer, with any child of the same age in England. The plant which overshadows the cow and goat is a bamboo, the tall palm in the distance is a cocoa, that which hangs over the old mother of the family is a plaintain, and the creeper on the thatched cottage a beautiful, fast-growing gourd, of the very kind, I could fancy, which obtained so fast hold of Jonah's affections. The style of carrying the child astride on one hip, the manner in which the water-pot is balanced, and the red paint, a mark of caste, as well as the diminutive size and high hump of the cow, are what we usually see here; and though the group itself is from fancy, all the different objects are as faithful representations of nature as my skill enabled me to make. The sketch may give you some little idea of the scenes we meet with in our morning rides.

* * * * *

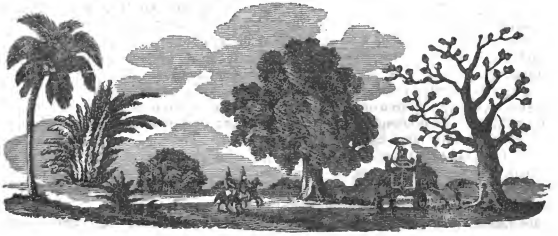
At present I am not aware that I have much news to tell you, or many circumstances to add to the description of Bengal, which I have already furnished. Our lives, for the last six weeks, have been passed in great general retirement, but so much and so many things are to be done, that I am often completely tired out before the day is ended, and yet have to regret many omissions. One considerable source of labor has been the number of sermons I have had to compose.

There is so grievous a want of chaplains on the Bengal establishment, that both the archdeacon and myself are obliged to preach quite as often, and sometimes oftener, in the Sunday, than I ever did at Hodnet.

* * * * * *

The country is now splendidly beautiful. The tall timber trees which delighted us with their shade and verdure when we landed, are now many of them covered with splendid flowers, literally hothouse flowering shrubs, thirty or forty feet high, and the fragrance of a drive through the park at Barrackpoor is answerable to the dimensions of this Brobdignag parterre. Some of the trees, and those large ones too, lose their leaves entirely at this season, throwing out large crimson and yellow flowers in their place.

I began my letter with a sketch of the peasantry of India. I conclude it with one of a part of the park of Barrackpoor, with lady Amherst in her morning's airing.



The large tree in the centre is a *peepul*, sacred to Seva, and with an evil spirit, as the Hindoos believe, dwelling under every leaf. In the distance, between that and the bamboo, is a banyan. In the foreground an aloe, and over the elephant a cotton tree, which at certain seasons exchanges its leaves for flowers, something like roses.

Believe me ever your faithful and affectionate friend,

REGINALD CALCUTTA.

MRS. SIGOURNEY'S POEMS.

Her poetry is the poetry of home-life; the affections clustering around the manifold objects of the domestic circle, and exhibiting in the varied scenes of man's changeful trial, the necessity and beneficial influence of virtuous feelings, and the piety of the Gospel. Seldom does she look out on the wide and warring world in its dark and troubled heavings. Those things which delight the muse of Gray, and other lyric bards, seem to have no attractions for her gentler spirit. This is as it should be. Woman is ever most at home in the peaceful circle, and among the less glaring topics. We have had lauding enough of military glory and the feats of reckless ambition. Already they live too lasting in the praises of gifted minds, without their being invested with new halos of attraction by the admiration of the softer sex. Still less does Mrs. Sigourney incline to the merely romantic fancies of genius. Her delight is in graver and more sober thoughts. She portrays life, but it is not the ideal life of many; it is life with its sweet and endearing charities, its sad and painful trials, just as we see them daily exhibited. Love, as it reigns in the breast of the betrothed, the bosom friend, the mother, the son or the daughter, and all its other relative shades, is depicted; but love as it dazzles in the lines of by far the greater portion of writers, is nowhere to be met with in her pages. The dreamy raptures, and the fulsome adulation of those who seem neither to know, nor care for, a permanent and rational attachment, whose verse is full of 'angels' and 'bright eyes,' and the hues and drapery by which is expressed the idolatry of high-wrought, short-lived and bewildering passion,—they will here be sought in vain. But the deeper and holier fount of Christian affections, the sweet inspiration of confiding hearts blended in the strictest union, and sympathizing together in the mutations of life,—such love is here wreathed with the choicest garlands of hope, or lending its alleviation to soothe the anguish of the desolate and sorrow-stricken heart. She seems aware that some may think her pieces are dimmed by the sombre shades of adverse incident, oftener than they wish, and in her preface she says, 'Should it be objected that too great a portion of them are elegiac, the required apology would fain clothe itself in the language of the gifted Lord Bacon,—"If we listen to David's harp, we shall find as many hearse-like harmonies as carols; and the pen of inspiration has more labored to describe the affliction of Job, than the felicities of Solomon."'

WASHINGTON'S MAXIMS.

Among the earliest papers, found in the archives at Mount Vernon, were the fragments of manuscripts written by Washington, during his boyhood and youth.

The most curious piece in the manuscript is a series of maxims under the head of 'Rules of civility and decent behavior in company and conversation.'

We give a few specimens, as we find them in Sparks' edition of 'Washington's Writings.'

'Strive not with your superiors in argument, but always submit your judgment to others with modesty.

'Undertake not to teach your equal in the art himself professes; it savors of arrogancy.

'When a man does all he can, though it succeeds not well, blame not him that did it.

'Being to advise, or reprehend any one, consider whether it ought to be in public or in private, presently or at some other time, in what terms to do it; and in reproving show no signs of choler, but do it with sweetness and mildness.

'Be not hasty to believe flying reports, to the disparagement of any.

'Take all admonitions thankfully, in what time or place soever given; but afterwards, not being culpable, take a time or place convenient to let him know it that gave them.

'Mock not, nor jest at anything of importance; break no jests that are sharp-biting, and if you deliver anything witty, and pleasant, abstain from laughing thereat yourself.

'Wherein you reprove another, be unblamable yourself; for example is more prevalent than precept.'

CAUSES OF CONSUMPTION.

In the short space of a few pages, we do not anticipate that justice can be done to a subject of such extent and importance as the one before us. If from our suggestions we may be able to anticipate danger before it is too late, if we shall succeed in warning the unsuspecting, or arousing the careless, something will have been accomplished to ward off the inroads of an enemy more fatal than any among us,—more fatal, because more common, and hence less feared. In consumption, as in many other diseases, life can be prolonged and suffering alleviated only by averting its *causes*—when once rooted and settled, the watchful care of friends, and the efforts of science, prove alike fruitless and unavailing. Of its causes we shall notice only the most common; and the first we would mention is that of

Hereditary Predisposition. What are we to understand by this, and how, while its detection can be of benefit, may it be discovered? The doctrine of the transmission of morbid peculiarities through successive generations, is as old almost as that of medical science itself, and hid, we might almost say, in the regions of the past, we find it recognised in the laws regulating the economy of the domestic relations. However, in an enlightened, Christian, but self-willed community, such laws may be regarded, they contain an impression, which cannot be misunderstood—they speak the feelings of experience, of unfettered reason—and mark as the belief of those times, what the observation of the present fully confirms, that 'the sins of the father may be visited upon his children unto the third and fourth generations.' How such peculiarities are generated and perpetuated, philosophy has failed to teach us; the fact still is none the less true, and its consequences are as certainly to be feared. But can this peculiarity be known? Has it characters which may be appreciated? Upon a peculiar physical conformation, which we will notice, some reliance has been placed, as indicating a predisposition to consumption. The fair delicate whiteness of some parts of the face, contrasting strongly with the soft vivid blush of the cheek—the blue bright eye, fair light hair, the projecting enlarged upper lip, the contracted chest and long neck, the smooth rounded conformation of the body generally, with the flaccid muscles, have long been associated with the predisposition to tubercular disease. This, however, does not prove universally true—for at times individuals of an entirely opposite general appearance are attacked and destroyed by this universal plague.

Climate, and connected with this, an *insufficient amount* of *clothing*, and *undue exposure*, are fertile sources of the malady in question.

This topic is one of considerable importance, inasmuch as its influence is extensive, and prophylactic means, may with success in many cases be adopted. The piercing colds of the north, or the parching heats of the south, are not the chosen regions of its deadly ravages; but it is in the temperate latitudes and variable climates that we find it developing itself with a fearful, vigorous activity. The sudden, damp, chilling breezes, to which on this coast we are so constantly exposed, almost imperceptibly but surely increase the number of its unfortunate victims; hence we find an aggravation of its symptoms, or death closing its distressing career, most frequently during our spring and autumnal months. We shall not attempt an explanation of the manner in which the sudden changes of weather operate in the production of the disease, but content ourselves with the simple statement of the fact. Too small an amount of clothing, for a like cause, contributes no small share to its increase, and is an influence, which, were it not for the enslaving dominion of fashion, might with ease be remedied.

The various *trades* and *occupations* of life exert an important influence upon the progress and development of consumption. The science of medical statistics, not only in this, but in all countries, is yet in its infancy; hence our means for acquiring correct statements of the influence of the various occupations upon health are very imperfect. Enough, however, has been done to make some approximation to the truth, and to lead to some interesting and important results. From those whose attention has been directed to this department of medical science, we learn that those trades in which the laborers are exposed to the inhalation of acrid and irritating substances, give origin to numerous cases of this disease. Among these may be mentioned the trades of the stone-mason, brass and steel polisher, metal-grinder, glass-blower, mill-tender, feather-dresser, &c. These exert their agency principally by the irritating particles which are constantly floating in the air. Some other mechanical pursuits may favor its development, either directly, by inducing local disease, or indirectly, by forming a cachectic morbid habit of body, which eminently fits it to take on diseased action. Among these may be mentioned the trades of the tailor, shoe-maker, dress-maker, &c. Literary pursuits may also be associated with this class. Did the limits of this article permit, examples in illustration of these points might be adduced.

The want of *active muscular exercise* in the *open air* is a secret though certain means by which consumption maintains its existence.

The influence of this cause is important as well from its wide-spread extent as its unhappy tendencies, and the ease with which it may be remedied. In the palace and in the cottage too, may be found the traces of its presence; among the aged, the middle aged, yes, and the unsuspecting young, may be seen the impress of its being; either natural indolence or unpardonable thoughtlessness, originating and fostering among us its fatal existence. To this cause may be credited many of the evil tendencies of the several mechanical and professional occupations of life. If but a certain and regular portion of our time were allotted to invigorating the body by active muscular exercise, the pale face and languid emaciated frame would soon be exchanged for the robust, ruddy look of health; the depressed feelings would regain or preserve their wonted elasticity, and the mind and body be better prepared for active, vigorous exertion. There are certain occupations which have been considered unfavorable to the development of consumption; such as those

of the butcher, tanner, tallow-chandler, seaman, &c.; much of this immunity may, we apprehend, be attributed to the open air and vigorous exercise which they enjoy. If then, we would not entail upon ourselves a race sickly and degenerate both in mind and body, many of the existing regulations of our manufacturing establishments must be changed, and some alteration may with benefit be adopted in the duties of the indented apprentice. But the influence of this agent does not stop here; there is another and very interesting class of subjects, who come within the pale of its baneful influence; we refer to the system of female education. On this subject we would speak with deference to the directors of such establishments, and would but reiterate the opinions of those for whom age and experience may claim attention and respect. In the institutions for boys the evils of which we complain do not exist to such an extent; even if their confinement be too long and tedious, their sports and plays during the interim would tend to arrest the unhappy consequences which must otherwise ensue. But with young ladies the case is far otherwise; anxious for the attainment of some premature distinction, the various round of fashionable accomplishments must be mingled with the tasks of severer discipline; thus music, painting, drawing, French, Latin, mathematics, logic, and a host of others, find a place among the circle of duties; and the mind of the unfortunate victim resembles the chaotic medley to which it has been tasked. But this is not the whole of the trouble; few, very few probably are aware of the small amount of time allotted to exercise in schools of this kind, and a still smaller number probably, are aware of the vast amount of disease and suffering to which the regulations of such establishments give rise.

We have somewhere met with a statement of the duties at an institution of this kind, in which one hour a day in fine weather was allowed the pupils for exercise; the remainder of the time was employed either at school, preparing lessons out of school, at meals or in bed; one hour a day were they allowed to walk abroad, and then arm in arm, with that slow, stately, measured step, resembling more a funeral procession, than a company in search of health and pleasure. The deficiencies of a system like this, must be obvious to every reflecting mind, and the instance is not a solitary, isolated one; many, far too many of our boarding schools for young ladies, are conducted on principles precisely similar. Here, then, deprived of exercise, deprived we had almost said of the light and air, the free gift of God's gracious bounty, with minds overstrained and bodies weak, are in training those from whom our land shall be peopled; a hardy race, surely—glorious representatives of our venerated ancestors. By statements like these, says an able writer, we do not mean to cast the slightest reflection on those by whom these seminaries are conducted. We have ever found them most solicitous for the health of their pupils, sedulous to preserve it, and when diseases arose unremitted in devoted attentions. But the system is faulty, and for this they are not accountable. By the influences and prejudices which uphold that system. they like others are chained; and until the system itself shall yield to increasing knowledge, juster views of the animal economy, a more correct conception of mental energies and of the injuries which their over excitement occasions, both to themselves and the bodily frame, and a firm resolution not to barter health for vain accomplishments,—in other words, until both mental and physical education shall undergo considerable reformation, and be founded on more rational principles, the evils must exist to an extent which no superintendent of a seminary can control. Connected with this part of our subject, but exerting perhaps a less extensive influence, let us for a moment notice another department of education, viz. the system of infant schools. The number of these institutions have increased so rapidly, and their influence upon the child either for good or ill is so considerable, that we would not pass them by in silence. Perhaps nothing is more necessary to the health and development of all parts of the body than exercise, and specially is this the case in the younger part of our days. Nature, wise in her means, seems to provide for this necessity in the natural playful sports of youth: we do not refer to the exercise of one part of the body, or one set of muscles only, but to the free, unrestrained, untaught exercise of the whole body in the open air. At this time of life the seeds are sown which shall eventuate in vigorous health, or a sickly manhood and premature old age. The health of that innocent being is in some measure intrusted to its parent; and its physical as well as moral and intellectual education, should find a prominent place in their anxious solicitude. Few, even among medical men, are aware how frequently consumption developes itself and terminates its fatal career, during the period of infancy; how often from this cause the fond parents are doomed to follow to the grave and bury there their hopes and their joys with the dear being, the offspring and pledge of their mutual love. From the observations taken at a foreign hospital for the treatment of the diseases of infants, we find that more than one half of the children who die, are tuberculous, and a large proportion of these actually die of consumption itself. How far this estimate is true of New England, facts will not warrant us in stating, but observations in the public charities of our own city develope a fearful and unsuspected mortality from this cause. Is it true, then, that such a proportion of our little ones are annually carried off by this relentless destroyer? If it be true, and we see not how it can be disputed, then the application of the subject is plain,—that those means and that system of training should be employed, which secures to each individual the greatest amount of health, and best prepares it to cope successfully with disease in after life. In the system of infant schools, are these ends accomplished? Let the results of future observation and experience answer. From considerations like these, we see that the deficiencies of the systems of mental and physical discipline, may assist in originating in early life, what the same causes would tend to develope at a later period.

Age and *sex* have also been noticed among the agents in the production of the disease. Of the first we have already spoken, and shall only add, that the

greatest amount of mortality will undoubtedly be found between the ages of twenty and forty. Sex has an influence only so far, we imagine, as the habits and manners of the female portion of the community differ from the male. The habit of tight lacing has been said to favor the development of consumption; it has no doubt an influence, and an important one, but regard for truth has, we fear, been sometimes lost in our efforts to correct abuses. The deficiencies of physical education, and the refined delicate tastes of many modern fashionable belles contribute an important share to the evils we deplore. The habits of eating chalk, charcoal, slate-pencils, and drinking vinegar, by deranging the powers of the digestive organs, secretly undermine the constitution, and give opportunity for diseases of every sort to wage a successful warfare with the powers of life. To various other causes has been assigned an influence in the production of the disease—as public speaking, the use of wind instruments, the depressing passions and too severe mental exercise; of these we shall notice only the last. The sympathy of the mind with the body and the consequences of its over exertion, have not received that share of attention in our systems of education, to which by its importance it is entitled. We too often forget that our whole being in this probationary state is subjected to laws, and it is not till confirmed idiocy or structural lesion in a part of our animal frame manifests itself, that we awake from the fatal lethargy. The sad truth of this unhappy mistake may be read in the blighted hopes of many a promising youth. Still fresh in our memory is the instance of one who was dear to us—the associate of other days, who passed with us the pleasant scenes of his collegiate life, and lived to leave but left to die—the victim of his restless, untiring ambition—a melancholy instance of the fruits of a cultivation of the mind and a neglect of the body; such is the unhappy fate of many a one—the centre of high-wrought, flattering expectations. The grounds of selection of persons for professional pursuits, foster rather than retard such results. Who are they? Not the vigorous and athletic, but the puny and delicate. They are too weak to labor, and forsooth are sent to college—a circumstance big with mischief as well to the body as the mind of the unfortunate sufferers. Among the causes of consumption we might consider the various common diseases of the lungs, but our limits forbid that we should enlarge. We have thus in a few words considered a disease which may well vie, in point of frequency and fatality with any with which man is afflicted. We have seen it sowing its deadly seeds in the first days of infancy, and laying desolate the first buddings of joyous youth—again delaying its deadly ravages to blast the prospects of maturer life,—and sometimes the aged, bowed down with the frosts of many a winter, become the victims of its merciless rage.

W.

THE AURORA BOREALIS.

On the twenty-fifth of January last, (1837,) there was a splendid exhibition of the light of the *northern morning*, which was observed in various parts of the United States, and probably in Canada and the north of Europe. The following description of its appearance at Boston, is taken from the Boston Courier.

'Soon after six o'clock, the aspect of the northern sky was sparkling with brilliancy, and apparently a cloud of light was emitting its lustre. Between half past seven and eight, the gambols of the aurora assumed a distinct form, weaving like magic a crimson drapery over the sky, festooning the zenith with ribands of light, and unrolling the radiance in beautiful symmetry, so as to meet the horizon's verge, thus forming a pavilion of the whole heavens—a roof of perfect proportions, whose beams and rafters were composed of light, and trembled in their own beauty. The pleiades lent their lamps to gem the dome of this magnificent tent. Orion kindled his fires anew, and all the stars of the azure vault seemed to glow with more intensity; as if in rivalry of this new flame, their clear white flames burst through the colored light, that gauze-like hung upon the vault of heaven, shewing but not hiding the thin robes, floating like light clouds, betwixt our gaze and heaven. The light of this phenomenon was so brilliant as to reflect from the snow and to dim the radiance of the parlor lamps as they shone through the windows.'

We have noticed accounts of this phenomenon from New Haven, New York, Albany, Philadelphia, Baltimore, Leesburg in Virginia, Marietta in Ohio, Washington, and the Bermuda Islands. There is a very close agreement in the accounts of the principal features of this uncommonly brilliant spectacle, in all these places. The most exact and scientific account is that of Professor Olmsted of New Haven. It appears that, at least in that city, the light arose at three several times from the horizon nearly to the zenith, covering almost the whole surface of the sky except in the southern portion. The light, excepting the more vivid coruscations, was every where of a dark orange, or rather rose-color, resembling very much the light of a large distant conflagration, for which it was mistaken in several places. It appears to have been first noticed about six o'clock, or immediately after the departure of the daylight. Its first appearance was that of a morning twilight in the north, but soon extended to the east, and with somewhat less brilliancy to the west. At New York there was but a small portion of the southern sky that was not enlightened. At Washington the light extended to eight or ten degrees south of the east and west points. At Marietta, one third of the horizon was illuminated.

The rising columns of brilliant white and yellow light, at about half past seven, and also soon after ten o'clock, formed a corona in what was supposed to be the magnetic zenith, at a point a little north and east of the pleiades. The magnetic needle, according to careful observations at New Haven, by Mr. E. C. Herrick, was strongly affected. The barometer at Albany stood at 30.12 inches, the thermometer about fourteen degrees above zero, falling.

Whether the light was an emanation, rising in various places from the ground, or passing through the upper regions of the atmosphere, it seems difficult to determine.

STEPHEN GIRARD.

Stephen Girard was born in the environs of Bordeaux, May 24th, 1750. Little or nothing is known respecting the condition of his parents. When a small boy he had a defect in the vision of his sight, which afterwards increased to total blindness. He is supposed to have left his native country at the age of ten or twelve years, in the capacity of cabin-boy in a vessel bound for the West Indies. He soon after came to New York, as cabin-boy and apprentice, in the employment of Capt. J. Randall. While with him his deportment was distinguished by such fidelity, industry and temperance, that he won the attachment and confidence of his master; who generally bestowed on him the appellation of 'my Stephen,' and when he gave up business he promoted Girard from the situation of mate to the command of a small vessel, in which he made several voyages to New Orleans. He was a self-taught man, and the world was his school. His intuitive quickness of conception and his powers of combination were such as would cause a very little instruction to go a great way. It was a favorite theme with him, when he afterwards grew rich, to relate that he commenced life with a sixpence, and to insist that a man's best capital was his industry.

The Water Witch, or at least the captain of the Water Witch, was always fortunate, and he soon became part owner. Such was his confidence in his '*lucky star*' as almost to amount to superstition. He first visited Philadelphia in 1769. He soon established himself in business on a small scale, and was reputed a thriving man. One day he observed Polly Lum, a servant girl, going to the pump, without shoes or stockings, but with rich, black, and glossy hair, hanging in dishevelled curls about her neck. She soon after became his wife. In partnership with Isaac Hazelehurst he purchased two brigs, in 1771, to trade to St. Domingo. Of one of them he took command himself. Both were captured, and sent to Jamaica. For once his lucky star forsook him. All professions and all occupations, which afforded a just reward for labor, were alike honorable in his estimation. He was never too proud to work. During the revolutionary war he bottled and sold cider and claret. In 1780 he was engaged in trade to St. Domingo and New Orleans. In 1790 on the dissolution of a partnership, which had some time existed between himself and his brother, John Girard, he was found by their mutual umpire to be worth $30,000. He was arbitrary in the exercise of authority, having little or no regard to the feelings of others. As a husband he was unhappy. His wife about this time was received into the Pennsylvania hospital as a lunatic, where she remained twenty-five years, till her death. His only child, a daughter, born in the hospital, died in infancy. At the time of the insurrection of the blacks at St. Domingo, he had a brig and schooner in port, in which many of the inhabitants deposited their most valuable goods, but were prevented by a violent death from returning to claim them. It is, however, not supposed that he received in this manner more than fifty thousand dollars. In the time of the fever, in 1793, when consternation had seized the whole population of the city, Stephen Girard, then a rich merchant, offered his services as a nurse in the hospital. His offers were accepted, and in the performance of the most loathsome duties he walked unharmed in the midst of the pestilence. He used to say to his friends, 'When you are sick, if any thing ails you, do not go to a doctor, but come to me, I will cure you.'

The terms of a bargain were to him a law, which he never violated; but in his breast there was no chancery jurisdiction for the decision of causes in equity. The misfortunes of a bankrupt, in his view, were follies, which excited no commiseration.

Having been successful in his commercial speculations, and by that means made large additions to his property, in 1811, in expectation of the renewal of the charter of the old bank of the United States, he purchased a large amount of the stock of that institution. The charter was not renewed, and the banking house coming into his hands by purchase, at a reduced price, the bank of the United States became Stephen Girard's bank. It was eminently useful to the public at the time of its establishment, and during the war was particularly useful to the Government; supplying, in fact, the want of a national institution, at a time when it was much more needed than now, when the treasury overflows. On the establishment of the last national bank, Mr. Girard, just at the close of the subscription, took the *balance* of the stock, being $3,100,000.

He did much to ornament the city of Philadelphia. He seems to have been ambitious to die the richest man in the country, and be remembered as the patron of learning, and the benefactor of the poor.

He died December 26th, 1831, in the eighty-second year of his age. He once said, no man should be a *gentleman upon his money*. The Girard college and the city of Philadelphia were his principal devisees.

'Behold the western evening light.'

Song.

Composed for the American Magazine.

Words by W. O. B. Peabody.....Music by Ch: Zeuner.

ANDANTE.

Be - hold the western evening light! It melts in deepening gloom; So calmly Christians sink a - way, De - scending to the tomb.

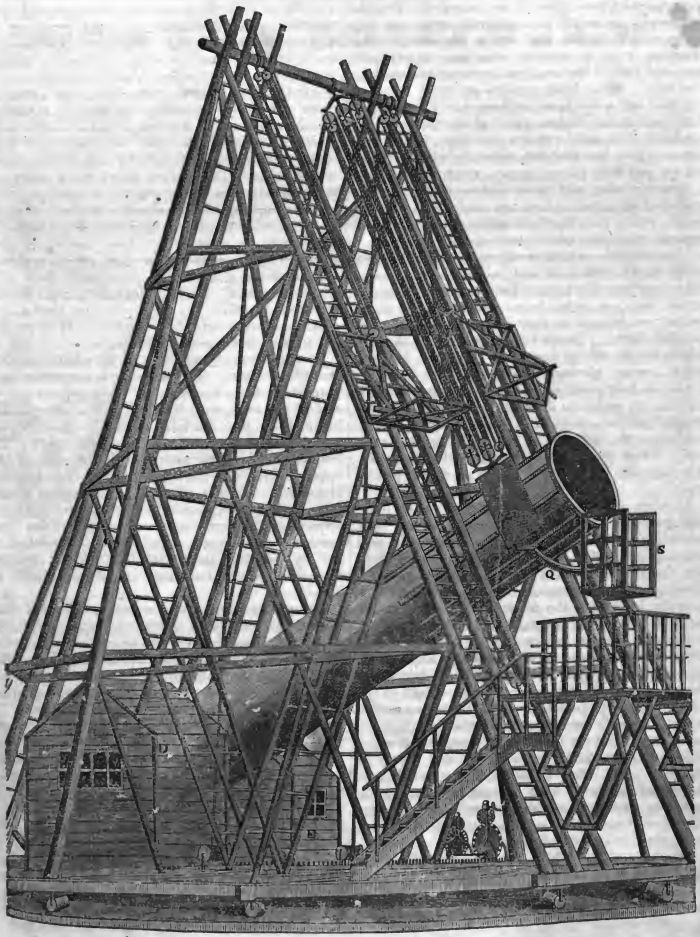
CODA after the last verse.

DIM.

How beautiful on all the hills
The crimson light is shed!
'T is like the peace the Christian gives
To mourners round his bed.

How mildly on the wandering cloud
The sunset beam is cast!
'T is like the memory left behind
When loved ones breathe their last.

And now, above the dews of night,
The yellow star appears;
So faith springs in the heart of those
Whose eyes are bathed in tears.



HERSCHEL'S GREAT TELESCOPE.

HERSCHEL'S TELESCOPE.

The engraving on the preceding page represents the front view of the famous telescope erected at Slough, with which Herschel made many important astronomical discoveries. From the various accounts which have been given, it appears that the platforms, on which this structure rests, are two circular brick walls, one within the other. The diameter of the largest, or outer one, is forty-two feet, and that of the smallest, or inner one, twenty-one feet. These brick circles, or walls, are sunk two feet and a half into the ground. They are two feet and three inches wide at the bottom, but gradually diminish towards the top, where they are only one foot and two inches in width. They are capped with paving stones, twelve inches and a quarter wide and three inches thick. In the centre of these two concentric circles is a verticle beam, which rises but little above the ground, and around which the whole structure may revolve.

The platform, which connects the different parts of the frame-work at the bottom, has three principal horizontal, parallel beams, forty-three feet and two inches long, six inches broad, and six inches thick, (which are crossed at right angles by three other parallel beams,) besides various bracing beams, which tie the whole compactly together, by iron bolts passing through the places of crossing. Under each opposite end of the six main beams is a roller, six inches in diameter, and eight in length, which rests on the outer circle. Besides these twelve on the outer circle, are eight on the inner one. Thus the whole platform, with its superstructure, can be made to revolve on these circular walls.

Ladders, each forty-nine feet two inches long, and propped by other shorter ladders, are seen ascending from the ends of the frame-work, and crossing each other at the summit, in such a manner, that they are bolted together at the point of crossing. Upright masts, one of which is seen near the left end of the frame-work, ascend in like manner. To these are attached horizontal braces, at different heights, all round the frame, except where the upper end of the telescope requires an opening to be left for the different degrees of elevation. Some distance below the mouth of the tube is a gallery, (of which we have given a partial representation,) having a floor thirteen feet six inches long, and six feet one inch and a half wide, which may be made to slide up and down at pleasure. No other fastening in the whole machinery of the wood work is admitted but screw bolts; as tenons of any kind, in an apparatus continually exposed to the open air, would bring on a premature decay, by lodging wet.

The tube of the telescope, which is thirty-nine feet four inches in length, and four feet ten inches in diameter, is made entirely of iron; it having been ascertained that a wooden tube would have exceeded an iron one in weight, by at least 3000 pounds. The sheets were first put together by a kind of seaming, that requires no rivets, and, when the sides of the iron platform were cut straight, it was lifted by proper tackle into a hollow gutter, and then brought gradually, by various tools, into a cylindrical form. Various hoops are fixed within the tube; and longitudinal bars of iron, connecting some of them, are attached to the two ends of the tube, by way of bracing the sheets and keeping the shape perfect when the pullies are applied to give the necessary elevation at the upper end, and that the large mirror might be kept secure in its bed at the lower end. The three pullies seen near the top of the telescope, each with a double block, correspond to three others near the top of the frame-work, which are hooked to the cross-bar there. The bars to which the blocks are hooked are so bent, that the moving ropes will not come in contact, nor will the tube when elevated have its vertical motion disturbed by the tackle, either in ascending or descending, which is an important precaution. The large mirror is enclosed in a strong iron ring, braced across with bars of iron; and an enclosure of iron and tin sheets makes a case for it. It is lifted by three handles of iron attached to the sides of the ring, and is put into and taken out of its proper place by the help of a moveable crane. Its diameter is forty-eight inches of polished surface; its thickness three inches and a half, and its weight 2118 pounds. With proper eye-glasses, it magnifies 6000 times.

The method of observing is by what is called the *Front View*. The observer is suspended in a seat, about forty feet high, at the mouth or upper end of the tube, with his back to the object. He looks down into the tube, and sees the reflected image there, either with his naked eye or by the help of an eye-glass attached to the side of the tube. In this way Herschel made his observations. His sister sat in a small room at the bottom of the tube, with a clock, papers, and all other necessary implements before her, and noted down her brother's observations, which he communicated to her, by speaking into a small tube which extended along the side of the larger one from his seat to hers.

Before this telescope was made, Herschel had constructed several of a large size, and had made important discoveries. He had discovered the planet Herschel and two of its satellites; the double ring, the quintuple belt, and two satellites belonging to Saturn; various phenomena relative to the rotation, figure, and general appearance of the old planets; volcanoes in the moon; changes which are going on in the disk of the sun; and the construction of the milky way. The whole subject of nebulæ, and double and triple stars may be considered entirely as his own. Not contented with the fine instruments which had conducted him to such discoveries, he began, in 1781, to make a thirty foot aerial reflector, with a mirror thirty-six inches in diameter; but the metal, being a little too brittle, cracked at one time in the cooling, and at another time ran into the fire, in consequence of the furnace giving way, and thus his design was stopped. In 1783, he had finished a very good twenty foot reflector, with a large aperture; and after two years' observation with it, he was so well convinced of the advantages of such apertures, that he resumed his intention to increase them still more. Sir Joseph Banks submitted

Herschel's design to George the Third, who immediately offered him assistance. He began to construct this telescope, of forty feet in focal length, about the end of the year 1785. He dates the completion of it from August 28th, 1789, on which day he discovered the sixth satellite of Saturn. A month later he discovered the seventh satellite. Subsequently he discovered four more of the satellites of Herschel. He was enabled by means of this instrument to add important information to what was already known respecting the heavenly bodies, and to give confirmation to results which had before been regarded only as probabilities. The observations were commonly made with it by viewing the heavenly bodies as they swept along before it, in consequence of the revolution of the earth, rather than by moving the telescope itself. It has been but seldom used since the death of Herschel, which took place August 23d, 1822; his son, Sir John Herschel, preferring a twenty foot reflector for his own observations. S.

GREAT BELL OF MOSCOW.

At the foot of the tower or belfry of Ivan Velikoi, (John the Great,) surrounded by bulkheads and scaffolding, stands that wonder of the world, the great bell of Moscow. As I believe we are the first English travellers who have had an opportunity of seeing the whole bell, (for until last year, when it was raised two feet from the ground by means of machinery, a great portion of it was embedded in the ground,) I was particularly anxious to examine it thoroughly, and therefore paid it several visits. Its dimensions I found on measurement to be as follows:—

Height of the bell (exclusive of cannons)	20ft. 7in.
Greatest circumference, . . .	68ft.
Thickness of rim, ...	2ft.

Its weight, is 10,000 pouds, or 360,000 pounds English.* From the lower part of the bell a piece is broken out, measuring about five feet eight inches in height, and seven feet in breadth. Through this fracture you enter the bell, which looks on the inside like a high vaulted room of metal. The machinery broke when they had raised it two feet from the ground; but they intend to make another trial next year when the emperor comes to Moscow, and will I suppose raise it several feet higher. An amphitheatre of seats has been erected round the place where the bell lies, either for the use of the spectators at the last exhibition, or in anticipation of the next. The clapper which is said to belong to the bell, lies on the other side of the tower; but its dimensions are so little proportionate to those of the bell itself, that I must doubt whether it ever really belonged to it. I might have ascertained this point, or at least whether the bell ever had any clapper at all, (which I greatly question) if the guard would have let me examine the interior with a candle; but this he obstinately refused. I suppose he was afraid of the bell being a third time the victim of a conflagration.

In the year 1817, the doubts respecting its date were cleared up, by the discovery of two inscriptions; the second of which seems to have been already known, although the accumulation of dirt had prevented its being legible for many years. The first of these inscriptions runs thus. 'Alexis Mikhailovitch, of happy memory, Autocrate of Great and Little Russia, and of white Russia, ordered that for the cathedral of the pure and glorious Assumption of the Virgin, a bell of copper should be cast, of the weight of 8000 pouds. In the year of the creation 7162, and of the birth of our Lord Jesus Christ 1654.' This bell was first used in the year of the creation 7176, and of Jesus Christ 1668, and served until the year of the creation 7208, and of Jesus Christ 1701, in which year, on the 19th of June, it was cracked by a great fire, which broke out in the Kremlin. It was dumb until the year of the creation 7239, and of Jesus Christ 1735.'* The second inscription is as follows. 'By an order of the Empress, Autocratess and glorious, Anna Ivanovna, for the glory of God, of the Holy Trinity, and in honour of the Holy Virgin, in the Cathedral of her glorious assumption the metal of the ancient bell, damaged by the fire, was re-cast, with the addition of 2,000 pouds of fresh metal, in the year of the world 7....† of the Nativity of our Lord 173..† the fourth year of her Majesty's glorious Reign.'

From circumstantial evidence, which it would be tedious to detail, it now seems tolerably certain that the fall which occasioned its second fracture took place between the years 1735 and 1739, and that it lay deeply bedded in the ground from that time until last year. The history of the bell then may be briefly stated thus:—

Originally cast in . . .	1654
First used	1668
Cracked by a fire . . .	1701
Re-cast	1735
Broken by a second fall, occasioned also by a fire	1735–1739

Paul's Tour to Moscow.

* A more distinct idea of the size of this stupendous bell may perhaps be formed by comparing it with the great bell of St. Paul's, which weighs between 11,000 and 12,000 lbs. The bell of the Kremlin therefore is at least thirty times as heavy as that of St. Paul's.

* Guide du Voyageur a Moscou, par G. De Laveau.

† The other figures were destroyed by the fracture of the bell.

PLACES OF WORSHIP.

There is a sanctity and venerableness about many of the English churches, and even those of the humblest order, which nothing but time indeed can give to the churches of our country, but which time will never give to them, unless we learn to build them with more durable materials than wood or brick. There is something in these churches which leads you instinctively to take off your hat when you enter them—a duty, by-the-by, of which your attendant is sure to admonish you, if you fail of it—and I would that the practice were more common than it is among us. The sentiment of reverence for holy places is certainly gaining ground upon the old Puritan and Presbyterian prejudice on this head, and it must grow with the increasing refinement of the people. But still, there are too many churches, especially in our country towns, which are in a state of shameful disrepair, and of abominable filthiness; and which are constantly trampled under the feet of the multitude, at every election. Indeed, the condition and use, and, I may add, the architecture of a church, cannot fail to have a direct effect upon the sentiment of religious veneration; and I trust the time is to come, when (with reference to the last point) the construction of churches among us will be given into the hands of competent architects, and not left to the crude and ambitious devices of parish committees. It costs no more to build in good proportions, than in bad; and the trifling expense of obtaining a plan from an able architect (not a mere carpenter) is unworthy to have any weight in a matter of such permanent importance to a whole community. The churches of a country are a part of its religious literature. They speak to the people; they convey ideas; they make impressions. The Catholics understand this, and are erecting, I believe, more fine churches in America, in proportion to their numbers, than any other denomination among us.

I confess that if I could build a church in all respects to suit my own taste, I would build it in the solemn and beautiful style of the churches of England, the Gothic style; and I would build it in enduring stone, that it might gather successive generations within its holy walls, that passing centuries might shed their hallowing charm around it, that the children might worship where their fathers had worshipped from age to age, and feel as if the spirits of their fathers still mingled in their holy rites. Nay, more do I say, and farther would I go—I am not speaking, of course, as proposing anything, but only as individually preferring it—but I say for myself that I would place altars in that church, where prayers might be said daily, where daily resort might be had by all whose inclination prompted; so that whosoever passed by, might have liberty, at any hour of the day, to turn aside from his business, his occupation, his care, or his leisurely walk—in his sorrow, or his joy, or his anxiety, or his fear, or his desire, and want, and trouble, and temptation, so often besetting the steps of every mortal life---to turn aside, I say, and bow down amid the awful stillness of the sanctuary. Let it not be said, as detracting from the importance of the religious architecture of a country, or as an apology for neglect or irreverence towards churches, that all places are holy---that the universe is the temple of God. It is true, indeed, that the whole frame of nature is a temple for worship, but is it a mean or unadorned temple? Nay, what a structure is it! and what a glorious adorning is put upon it, to touch the springs of imagination and feeling, and to excite the principle of devotion? What painted or gilded dome is like that arch of blue 'that swells above us?' What blaze of clustered lamps, or even burning tapers, is like the lamp of day hung in the heavens, or the silent and mysterious lights that burn forever in the far off depths of the evening sky? And what are the splendid curtains with which the churches of Rome are clothed for festal occasions, to the gorgeous clouds that float around the pavilion of morning, or the tabernacle of the setting sun? And what mighty pavement of tesselated marble can compare with the green valleys, the enamelled plains, the whole variegated, broad, and boundless pavement of this world's surface, on which the mighty congregation of the children of men are standing? What, too, are altars reared by human hands, compared with the everlasting mountains—those altars in the temple of nature; and what incense ever arose from human altars, like the beautiful mists that float around those eternal heights, and then rise above them and are dissolved into the pure and transparent ether, like the last fading shadows of human imperfection, losing themselves in the splendors of heaven? And what voice ever spoke from human altar, like the voice of thunder from its cloudy tabernacle on those sublime heights of the creation, when

> 'Not from one lone cloud,
> 'But every mountain height hath found a tongue,
> 'And Jura answers from her misty shroud
> 'Back to the joyous Alps who call to her aloud!'

And, in fine, what anthem or pœan ever rolled from organ or orchestra, or from the voice of a countless multitude, like the dread and deafening roar of ocean, with all its swelling multitude of waves? Yes, the temple of nature is full of inspiration, full of objects that inspire devotion, and so, as far as may be, should our temples of prayer and thanksgiving be made.

To say, as if to detract from the sanctity of religious edifices, that here after all, is only so much wood, and stone, and mortar, which are nothing but the same mass of materials in any other form, or devoted to any other purpose—why we talk not so of our homes—we talk not so of nature—we talk so of nothing else. It is by mixing up intellectual and spiritual associations with things, and only so, that they have any interest or importance to our minds. Things are nothing but what the mind makes them to be—nothing but by an infusion into them of the intellectual principle of our own nature. The tuft that is shorn from the warrior's plume by the scythe of death, is nothing else, if one pleases so to consider it, but the plumage of a bird. The relic of a sainted martyr—suppose it were a hem of his garment—is, if one pleases

so to consider it, nothing else but a piece of cloth that protected him from the winter's cold, or the summer's heat. The place where his broken and lacerated body was laid down to rest may be accounted common earth; and the mouldering remains of a buried empire may be accounted common dust. The Palatine hill on which stood the palace of the imperial Cæsars, and which is now covered with its ruins, may be accounted a common hill. But so do we not speak of things, nor think of them.

No, let us yield to that principle of our nature which imparts a portion of its own character to the things around us; which, with a kind of creative power, *makes* times, and seasons, and places to be holy; which gathers a halo of glory and beauty over our native land; which accounts the maxim devoutly true, that 'there is no place like home;' and which hallows 'the place where prayer is wont to be made'—which accounts no place like it—and yet so accounting it, judges that to be a good work, which makes the temples of a nation's worship strong and beautiful, for the use and admiration of successive ages.—*Dewey.*

THE WEDDED LIFE.

I may perhaps startle you, Effa, by saying that the first year of a young woman's wedded life is generally the most unhappy, and the most trying one she experiences. However intensely we may have studied the character of our affianced, however well we may imagine we knew it in all its narrow windings, still shall we find, when we become wives, that we have yet something to learn. By sections is the affection on either side shown, and although it is in the power and nature of a woman to manifest her devotedness and tenderness by a thousand little attentions, she must not repine if she receive not the like.

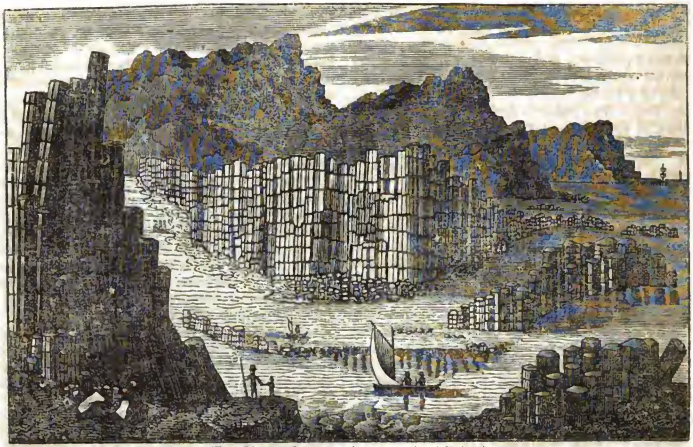
The feelings of the other sex are not so soft and exquisite as those of our own; if they were, we might possibly be happier, and we may for a moment wish that they were so, but we shall restrain so selfish a desire, if we reflect how much more unfit they would be by such a constitution to bear the crosses and buffets of the world; and we shall rejoice that they do not possess our keener sensibilities, and rest contented with our lot, refusing to increase, at their expense, a happiness, which, if not quite meeting our ideas of perfection, does so sufficiently to make us blest.

It is said that 'lover's quarrels' are but the renewal of love; but it is not so in truth. Continued differences and bickerings will undermine the strongest affection, and a wife cannot be too careful to avoid disputes upon the most trivial subjects; indeed, it is the every day occurrences which try the love and tempers of the married life—great occasions for quarrels seldom occur. Every wish, every prejudice, must meet with attention, and the first thought of a woman should be the pleasing and providing for her husband. It is impossible to enumerate all the little incidents which may annoy married men, or the little unobtrusive pleasures which it is in the power of a wife to give; but throughout her life, in her employments and in her amusements, she must ever bear his pleasures in her mind. She must set for him in preference to herself, and she will be amply rewarded by witnessing his delight in her and his home. To a woman who loves her husband with all the devotedness of her nature, this will be a pleasure, not a task; and to make him happy, she will never grudge any sacrifice of self.

The greatest misery a woman can experience is the changed heart and alienated affections of her husband, but even in that painful case she must not relax in the performance of her duties. She must not upbraid; she must bear with fortitude and patience her great disappointment; she must return good for evil to the utmost, and her consolation will be the consciousness that her trials have not their rise or continuance in any dereliction of affection or duty on her part.

Some women, in order to win back a husband's wandering love, have recourse to attempts to arouse his jealousy,—but they are much mistaken in pursuing such a method. A man, however debased his conduct, never entirely forgets the love he once bore to the pride of his youth; there are moments when feelings of tenderness for her will return with force to his heart, and to reap the benefit of such moments the injured forgiving wife must still be enshrined in the purity of former times. A husband will excuse his fault to himself, and in some measure also stand exonerated to the world, if his wife relax in the propriety of conduct, while, on the contrary, the gentle forbearance, the uncomplaining patience, and unobtrusive rectitude of the woman he injures, will deeply strike to his heart, and do much to win him back to his former love, and to the observance of the vows he breathed at the altar, when his heart was devoted to the being from whom it has wandered. A kind look, an affectionate expression half uttered must bring his wife to his side, and she must, with smiles and tenderness, encourage the returning affection, carefully avoiding all reference to her sufferings or the cause of them.

This will not be difficult for a virtuous woman to perform. Our love, which before marriage is constrained by the modesty and reserve natural to our sex, increases in fervency and depth afterwards: It enables us to bear unfelt the world's scorn,—all is swallowed up in it. An affectionate wife clings to her husband through poverty and riches; and the more the world recedes from him, the more firmly will she stand by him; she will be his friend when none others come near him, she will be his comforter when all other worldly comfort has slid from him. Her devotedness will be his rock when he has no other support; she will smile at the frowns of the world; she will not heed its censures—he is her all, and in love are all other feelings forgotten or absorbed. No sacrifice will be too great,—the faintest smile will not be a reward too little; quick at feeling unkindness, we are also quick at feeling tenderness,—and a very trifling circumstance is sufficient to awaken or to still the pain of our hearts, and bring us misery or happiness.—*Mrs. Stanford.*



The Giant's Causeway in the north of Ireland.

THE GIANT'S CAUSEWAY.

BY HEMAN HUMPHREY, D. D.

Of this stupendous natural formation, certainly one of the most remarkable in the world, I had no adequate conception before I visited it; and I quite despair of conveying such a conception to the mind of the reader. I had seen a few joints or blocks of the causeway, among other geological collections, in two or three public seminaries. I had also read descriptions of it, and looked at one or two drawings; but it seems to me, that I could scarcely have been filled with greater wonder and astonishment, if I had never seen a specimen, or read a syllable on the subject before—so perfect is the formation, and on so vast a scale. Imagine yourself then, advancing towards a precipice four hundred feet high, with the ocean spread out before you. As you approach nearer and nearer to the verge, you expect every moment to catch a glimpse of the object for which you undertook this journey, of a hundred, or a thousand miles. You come to the brink and look over, and there it is, lying at your feet, and extending out like a vast quay or mole of hewn stone, from the base of the precipice, about forty rods, till it is lost in the sea. It seems to you, as if thousands of skilful workmen must have been employed here for years in hewing and smoothing and preparing materials, for building a magnificent city. I feel perfectly certain, that if no such natural formation had ever been heard of, not one person in a million, who might happen to come upon it suddenly, would suspect it to be any thing else but human workmanship. And even now, with all your knowledge and all your geological theories, you cannot, I will venture to say, help feeling, for the moment, that every stone must have passed under the hammer and chisel.

But this is not the most favorable station from which to look at the giant's causeway. You want to get nearer to it, to view it from different positions, and then minutely to examine it. Accordingly, returning to the Rockheads, where there is a breach of some fifteen or twenty rods in this mighty rampart, you descend, by a shelving and circuitous path, half-way down the steep, to a resting-place called the Stookans, from whence you see the causeway projecting from the stratified cliff, beginning at the height of nearly two hundred feet, and sloping down somewhat irregularly into the water. When you have stayed here long enough, you descend to the causeway itself, that you may walk over and examine it at your leisure; and this near inspection greatly increases your admiration and astonishment. You find yourself upon the top of perpendicular pillars, a little higher in some places than others, but constituting a pavement of thirty thousand beautiful polygons, the sides and angles being so closely and accurately fitted and joined together, that water left upon the surface remains as it would upon a solid rock. These pillars are pentagons, hexagons, and octagons, though chiefly the two former. One I saw of *three* sides, and two or three of *nine* sides. Very few of them are exactly similar, and scarcely one can be found perfectly equilateral. But the contiguous sides of any two pillars are always equal, however much they may differ in other respects. The columns become larger, as you recede from the water. Near the cliff, or at the upper part of the mole, they are many of them nearly thirty feet in height, (from what depth they rise no one can tell,) and from sixteen inches to two feet in diameter. Each pillar is composed of distinct parts, or blocks, about nine inches deep, with alternate concave and convex surfaces, like ball and socket joints Some of these sockets will contain from two quarts to a gallon, though in general they are not so

large. In the higher columns, which have long been exposed to atmospheric action, these articulations are distinctly visible. The sides are as true as any architect in the world could have fitted them with his plumb-line, and you might take down one block after another, with your hands, just as if they had been nicely matched by the most skilful artist, and laid up without a particle of plaster, or cement between them. Where the ball adheres at all to the socket, it is so slightly that a little jar is sufficient to detach it. Below high water mark, the waves have thrown down many of these pillars, and fragments have fallen from many others, high up in the face of the cliff. But as visiters are not allowed to take them away, the proprietor wishing to have every thing remain just as it is, I scarcely indulged the hope of procuring even two or three of these polygons for our cabinet. Through the kind agency and liberality of Mr. Carlile, however, we have just received several fine specimens, which we value very highly.

Viewed from certain points, the transverse section of the causeway somewhat resembles a honeycomb, and one part of it has received that name. Standing upon this tesselated ruin, with your face towards the cliff, you see a row of pillars at the base of it, from ten to fifteen feet high, called the *giant's loom*, and a few hundred yards to the left, high up in the face of the precipice, another row, called the *giant's organ*, from its resemblance to that instrument. The central pillars, or pipes, are about forty feet high. I counted forty-five of these pipes. Still further east, you see a row of high pillars, called the *chimney tops*, which at a distance they very much resemble. Passing round the point upon which they stand, you come to a little bay, and just beyond that, to the Pleaskenhead, which is a remarkable formation. It consists of a perpendicular colonnade of basaltic pillars, sixty feet high, resting upon an immense bed of compact basalt, which again is supported by another range of columns, about fifty feet high, resting upon beds of ochre and basalt. The total height is 170 feet, and I leave the reader to judge what must be the effect of such a magnificent natural structure upon the beholder. To form any thing like a correct idea of the handy workmanship and overpowering grandeur of the scene at and around the giant's causeway, you must imagine to yourself, an immense wall rising to the height of four hundred feet over your head—here in adamantine repair, and there crumbling under the hand of time—here a colonnade, as perfect as if it had been furnished but yesterday, and there another falling to decay—the ruins of a Thebes or a Palmyra under your feet—and the whole shore, as far as your eye can reach, one vast impregnable fortress, with its rude battlements and colossal architectural ornaments, beetling over the dark waves below.

How far the giant's causeway extends into the sea, it is impossible to ascertain; but as the same formation, equally perfect, occurs in the island of Staffa, a hundred miles distant upon the coast of Scotland, some geologists conjecture, that the two are actually connected by a sub-marine pier of these basaltic columns. From the nature of the case, this conjecture can never be verified by actual survey; but when we consider, that the same agency, whatever it may have been, which formed and set up thirty thousand pillars at the giant's causeway might just as easily form thirty millions, the supposition will not appear so absurd and incredible as some might be ready, at first, to pronounce it.

But how shall we account for the existence of all these millions of perfect polygons? Who built this stupendous causeway? Was it done by the action of fire, or water? Are these columns of solid basalt so many immense crystals, or what are they? I don't know whether I am a Plutonian, or a Neptunian. I might, perhaps, embrace the hypothesis of crystallization, if these pillars, like all other known crystals, were solid throughout. But how came they to crystallize in *blocks, nine inches thick*, with ball and socket joints? Can any of the learned professors tell? The ancient Irish explained it all, without the least difficulty. The causeway, they said, was built by the giants, under their chief, Fion Mac Coul, the renowned Fingal, father of Ossian. This is cutting the knot, which an Irishman always knows how to do, when he cannot untie it; and here, for aught I can see, the question must rest for the present.

I am not geologist enough myself to know how many other localities of this columnar basaltic structure have been found, nor whether any others equally perfect have elsewhere been discovered. Since my return, Professor Hitchcock, of this college, has pointed out to me a similar, though comparatively imperfect formation, at the western extremity of Mount Holyoke, on the bank of Connecticut river, and he has since discovered better specimens on the declivities of Mount Tom.

From the Boston Courier.

THE CHILD AND BUTTERFLY.

By the author of Ship and Shore.

I met, between the April showers,
A little sportive child,—
The merriest being 'mid the flowers,
Where she was playing wild.

No kerchief screened her from the sun,
Her neck was white and bare,
Except around it loosely hung
The ringlets of her hair.

There was a gladness in her air,
A laughter in her eye,
Her eager hands went here and there,
As she was racing by.

Whither so fast, my little one
She made me no reply,
But, chattering to herself, ran on
To catch the butterfly.

The fluttering beauty soon she caught;
Its wings her quick breath fanned;
A moment more, and all she sought
Lay lifeless in her hand!

So giddy youth for pleasures run—
Through anxious hopes and fears—
Which ever leave them, soon as won,
To their regrets and tears!

From Sedgwick's Public and Private Economy.

EMIGRATION TO THE WEST.

There is a class of poor people in the United States, who deserve particular attention, and these are settlers on new lands, or emigrants from the old States. It is not meant, that all emigrants are poor people, but that many of them are, and of those who are poor, many are very poor, and great sufferers for the want of a little property, to secure the common comforts of life, in their passage from the old to the new States, and in their new residences.

Many of these emigrants are so poor, that their journey is a scene of constant trial and suffering. That portion who go from the northern States, and take a passage by water across the lakes, are exposed to many of the miseries of a sea-voyage. In some of the steam-boats (1835) from Buffalo, in New York, to Detroit, in Michigan territory, the steerage passengers pay only three dollars for their passages, whilst the cabin passengers pay eight. These cabin passengers have each a good berth, some the luxury of double mattresses; their meals being included in the sum mentioned, they often sit down to sumptuous repasts, and enjoy every comfort of which such a condition admits. At the same time, the decks are crowded, night and day, with the poor emigrants. These boats are often so crowded, that even in the worst storms neither men, women, nor children, have room to lie down. Infants are placed sometimes on the head of a barrel, sometimes in the lid of an open trunk, the mother standing all night watching by its side. In one place may be seen a man and his wife in the midst of barrels, trunks, and bales of goods, with no other pillow than a cable or block of wood; and then, again, others without any pillow at all. Sometimes the boats are so crowded, that few or none can sleep in any way. These steerage passengers find their own food, and often without any 'privilege' of the fire or kitchen, which it is impossible to grant to so many. They are often not even allowed, in such cases, the comfort of hot water, to enable them to make a cup of tea or coffee. Indeed, few situations are attended with greater difficulties than those of these poor people. Storms, crowded vessels, and the heats of summer, expose the women and children especially to disease, when, without nurses, physicians, or help of any kind, they are sometimes obliged to remain, from day to day, in the midst of their own filth, *created by the calls of nature!* Now, it is plain, that a very few dollars more than they have would save these indigent people from many of these miseries. A very small additional sum would secure them a comfortable passage. The prudent see every day how moderate a sum it is that generally procures the simple means of health and comfort, and what great evils are suffered by the poor in being destitute of these very limited supplies.

Some of these emigrants travel by land, in their own carriages, through the States of New York, Pennsylvania, and Ohio, perhaps into the territory of Michigan, and even as far as the State of Illinois. The hardships of the land passage are often as great, or greater, than that by water. The roads in these new States, in the wet season, are nearly impassable. In Illinois, five yoke of oxen are often attached to a load that here is drawn with ease by two, and even then it is sometimes impossible to get through the 'slews,' as they are called by the people of that State. These slews are the miry places in the low prairie. In many cases, a bridge, that would not cost ten dollars, might avoid the difficulty. But ten dollars is not to be found for such a purpose; there are other wants more pressing for every ten dollars that the new settler has. In the midst of these wet places, men, women, and children, are sometimes obliged, in order to relieve the carriage of its burthen, to wade through the mire; the goods are then often carried by hand to the dry land, and the carriage is drawn out by extra teams. These hindrances are costly, and attended by great exposure of the health. Disease often follows in the course of such hardships; the journey is protracted, and much more expensive than the emigrant had calculated. Cold, heat, and exposure, bring on evils not looked for,—such as women becoming mothers before their time,—and this, perhaps, exhausts the little stock of money remaining. These are a few of the evils that beset the poor wayfaring emigrant.

This, however, is but the beginning of his difficulties. We will now suppose that he has arrived at the end of his journey, at the 'promised land,' at the beautiful prairies of Illinois. These fertile prairies, so easy of cultivation, seem to present the most ample natural provision that a bountiful parent ever provided on this earth for his children. Here are grander beauties, in the rich grasses, variegated flowers, in the shirting woods, and 'rolling prairie,' than are to be found in the lawns, parks, pleasure grounds, and palaces, of many of the great nobles of the earth. This beauty is so unlike any other kind of beauty that no pen can adequately describe it.

The poor emigrant, so far from having prepared a palace for his residence, has often not been able to provide before hand even a log house for his abode. In this case he often hires board with some other poor emigrant for weeks or months, when the families of both are sometimes crowded into one room. This house is soon, however, generally put up by the aid of his neighbors. The whole cost of a log house does not generally exceed twenty-five, thirty, or forty dollars. Many have no cellars or chambers; there is, therefore, but one room, in which the family sleeps, and where all the household work is carried on. Sometimes there is not even a floor to these houses, in which case the family sleeps on the ground.

The life of the poor emigrant is often one of incessant toil. Where there are so few people he cannot obtain hired help, even if he had the money to pay for it; all his heavy work, therefore, as well as his chores, fall upon himself. There are other evils; new countries are peculiarly afflicted with fever and ague, and bilious fevers. These are not sharp disorders, quick over, but long protracted, wearing the flesh to the bone,

and happening generally in the summer and autumn, that season so precious to the farmer.

It is in the nature, also, of fever and ague, after having once made its attacks, to continue them from year to year, so that the life of the poor emigrant and his family is often one of long conflict with disease and death. A great portion of these diseases in the new countries is attributable to the want of good food, warm garments, houses sufficient to keep out storms and musquitoes, and especially to the want of cleanliness. People in the new States say, that they are too poor to keep clean, and it is true enough.

It is seldom that the poor emigrant can obtain medical assistance, and this is one of his hardships. In the new States physicians reside principally in the villages, and if a poor man in the woods or remote prairies needs aid, to set a broken arm or leg, he is compelled to send, perhaps, twenty or thirty miles to obtain it. Even if there be medical or surgical assistance at hand, the indigent emigrant postpones obtaining it as long as he can, for he has not a dollar to spare for such a purpose. It is one of the hardest things in the lot of the very poor man, and especially of the emigrant, that he is obliged to work on, after disease has given him notice of its approach, when a few dollars expended in nursing and lying-by might save him from a long fit of sickness. A man who has not a bushel of grain in his house cannot think of lying down, whilst he is able to put one foot before another.

Reflecting people see clearly, how small a sum of the millions, fooled away yearly both by rich and poor, would, if saved by each individual, ward off many of the evils here mentioned. It must be remembered that this is an account of *poor* emigrants, and that there are many new settlers whose property provides them with the means of escaping from the greater part of these miseries. Here we see, that property is not the *end*, but the *means* of doing good, and getting good, and that without the property, the good cannot be got.

The foregoing extract is taken from a very valuable work, published some months since by Theodore Sedgwick, Esq. It inculcates sound, practical views on the subject of public and private wealth; and, unlike most works on Political Economy, it is written in a popular style, and is well adapted to interest and instruct the great mass of the community. We have been surprised that the work has received so little notice from our public journals. A continuation of the subject is promised in a second volume, which we shall look for with much interest. We had marked another passage respecting the occupancy of the public lands by *squatters* and *claimants*, but our limits compel us to defer it to our next number.

Tasso's wish.—Tasso being told that he had a fair opportunity of taking advantage of a very bitter enemy—'I wish not to plunder him,' said he, 'but there are things I wish to take away from him; not his honor, his wealth, or his life, but his ill-will.'

THE DYING BOY.

It must be sweet in childhood to give back
The spirit to its Maker, ere the heart
Hath grown familiar with the paths of sin,
And soon to gather up its bitter fruits.
I knew a boy, whose infant feet had trod
Upon the blossoms of some seven Springs,
And when the eighth came round, and called him out
To revel in its light, he turned away,
And sought his chamber, to lie down and die.
'Twas night; he summoned his accustomed friends,
And in this wise bestowed his last requests:—

'Mother, I'm dying now,
There's a deep suffocation on my breast,
As if some heavy hand my bosom pressed,
And on my brow I feel the cold sweat stand,
Say, Mother, is this death?
Mother, your hand!
Here, lay it on my wrist,
And place the other thus, beneath my head;
And say, sweet Mother, say, when I am dead
Shall I be miss'd?

'Never beside your knee
Shall I kneel down again at night, to pray,
Nor in the morning wake, and sing the lay
You taught to me.
Oh! at the time of prayer,
When you look round and see a vacant seat,
You will not wait then for my coming feet—
You'll miss me there.

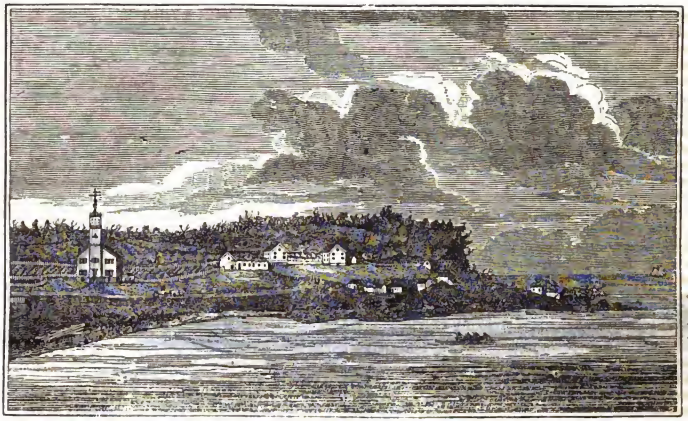
'Father, I'm going home,
To that great home you spoke of, that bless'd land
Where there is one bright summer, always bland,
And tortures do not come.
From faintness and from pain,
From troubles, fears, you say I shall be free—
That sickness does not enter there, and we
Shall meet again.

'Brother, the little spot
I used to call my garden, where long hours
We've stay'd to watch the coming buds and flowers—
Forget it not.
Plant there some box or pine,
Something that lives in winter, and will be
A verdant offering to my memory,
And call it mine.

'Sister, the young rose tree,
That all the Spring has been my pleasant care,
Just putting forth its leaves so green and fair,
I give to thee;
And when its roses bloom
I shall be gone away—my short course run—
And will you not bestow a single one
Upon my tomb?

'Now, Mother, sing the tune
You sang last night, I'm weary, and must sleep—
Who was it called my name? Nay, do not weep,
You'll all come soon!'

Morning spread over earth her rosy wings,
And that meek sufferer, cold and ivory pale,
Lay on his couch asleep. The morning air
Came through the open window, freighted with
The fragrant odors of the lovely Spring.
He breathed it not. The laugh of passers-by
Jarred like a discord in some mournful note,
But worried not his slumber—he was dead!



Mission-house at Mackinaw.

MACKINAW.

The island of Mackinaw, or as it has been written *Michillimackinack*, is situated in the straits which connect lake Huron with lake Michigan. The original name means *Great Turtle*, which, from its singular conformation, it not a little resembles. Its circumference is about seven miles, through nearly the whole of which the Island rises precipitously from the waters of the lake to the height of a hundred or a hundred and fifty feet; leaving generally only a few rods, and in some places not even that extent, of pebbly beach at its base. This is the elevation of the main body of the island; but the central part is raised about a hundred and fifty feet more, by a similarly precipitous ascent, and presents on its top a table of a few acres, elevated about three hundred feet above the surrounding lake. This is the highest land in the vicinity and is seen at a great distance by the approaching voyager. The island is principally a mass of rock, and its surface is full of stones of all sizes with little earth between, and only small portions of it are capable of successful cultivation. Potatoes and garden vegetables are raised on the arable portions in great perfection. Most of the surface is covered with small trees and shrubs.

On the south-east side of the island there is a small crescent-shaped indentation of the coast, which constitutes the harbor, and around which, on a narrow strip of land, gradually rising from the lake to the foot of the first bluff, is the village, embracing about a hundred buildings, and, including the men in the garrison, about five or six hundred inhabitants. At the eastern extremity of the harbor, immediately at the foot of the bluff, are the mission-house and premises; a little west of it and near the water is the meeting-house; near the centre of the curve bounding the harbor, are the house and gardens of the United States' agent for Indian affairs; and on the brow of the bluff back of this, still further west, is the fort. The scenery presented on entering the harbor is altogether unique, and highly romantic and beautiful.

The population consists principally of Canadian French, and a mixed race descended from the French and Indians, nearly all of whom find employment in connection with the fur-trade and fishing. Besides these there are a few other families residing here connected with the fur trade, and others still who are engaged in commercial pursuits. A large portion of the population are Roman Catholics, who have a church and a resident priest. The great importance of the place, and perhaps the reason why it is inhabited at all, is derived from the fact that it has been made the centre of all the fur trade of the northwest. The principal agent of the American Fur Company has resided here; and here all the gentlemen engaged in the trade among the Indian tribes, from beyond the sources of the Mississippi river to lake Superior and lake of the Woods, together with many of their clerks and men, are congregated every summer, for the purpose of delivering over their furs and obtaining articles to enable them to carry on the trade during the ensuing winter. Many persons from various parts of the United States are also brought here at the same period for trade or other purposes. Indians, also, from nearly every tribe on the northwestern frontier, and between the head waters of the Missouri to the lake of the Woods, also resort hither or pass this place in great numbers during the summer, giving to the village a very crowded and bustling appearance. Sometimes not less than 1500 or 2000 may be seen encamped on the island; some of them sheltered by their canoes turned upside down, and

others by tents of mats or skins; all of them nearly destitute of clothing, except their blankets, and exhibiting almost every mark of poverty and wretchedness, as well as of intellectual and moral degradation. Here may be seen the Indian in his native character, manners, and dress, as much as on the Rocky mountains or at lake Winnepeg, wholly unchanged by any meliorating influence of Christianity or civilization, engaging in his dances and songs with all the wild and savage airs which characterised the inhabitants of these forests two centuries ago. The Christian feels himself to be in the midst of a heathen population of the very lowest character; one, too, which he sees exposed to great temptations from the community with which they are thus brought into contact; ready to barter all the little which they possess for intoxicating drinks.

Though these Indians may be said to belong to some tract of country within which they spend most of their time, yet they have no fixed and permanent dwelling-places, where they lay up for themselves the necessaries for their subsistence and comfort. They rove about from place to place, frequently suffering the extremest want, and often, during the winters, perishing in great numbers by starvation. They start on these long journies, often of from 1000 to 2000 miles, by whole families or clans, men, women, and children, travelling on the lakes and rivers in their canoes, depending for subsistence almost entirely on what they may catch or beg on the way.

A school was commenced at Mackinaw under the patronage of the United Foreign Missionary Society, by the Rev. William M. Ferry and his wife, November 3d, 1823. He had at first but twelve Indian children; but within a year the number was increased to fifty, and might have been larger, if the accommodations had been sufficient. In July, 1824, the mission family and a small school which had been sustained three or four years near Fort Gratiot, at the southern extremity of lake Huron, were removed to Mackinaw and united with that mission. To this school children were brought from the shores of lakes Huron, Michigan, and Superior, from the head waters of the Mississippi, and even from the Red River, lake Athabesco, and Hudson's Bay. Some were brought from tribes not less than 2,500 miles distant, embracing the Ottawas, Ojibwas, Pottawatomies, Winnebagoes, Menominies, Kinnistenas, Sacs and Foxes, and Sioux. The number of pupils rose sometimes as high as 170 or 180; of whom about 120 were clothed, fed, and lodged by the mission family. The others belonged on the island, or were taken care of by friends residing there. The whole number of pupils educated in this school during the ten years since it went fully into operation is about three hundred; about three-fifths of whom were boys. More or less knowledge of agricultural employments has been imparted to all the boys, and a considerable number of them have become pretty well versed in some mechanical art. All the girls have been diligently employed in household labors, in which the older ones exhibit a good degree of skill. Some of both sexes have been well qualified to act as teachers, and have been successfully employed to some extent in this manner.

The Sabbath is as sacredly observed at Mackinaw as in almost any village in our land. A neat and commodious house of worship has been erected, principally at the expense of the residents and the traders, where from 200 to 300 meet to worship God. Religious and benevolent societies have been organized, which contribute with great liberality. A large portion of the children are brought under the influence of Sabbath and infant school instruction, and vice and immorality are generally frowned upon. A most happy change, and one most auspicious in its bearings on the introduction of Christianity among the interior northwestern tribes, has been witnessed among the gentlemen engaged in the fur trade.

The Christian form of marriage has been introduced extensively among those connected with Indian women; travelling on the Sabbath, during their long annual journies to and from Mackinaw, has been to a great extent discontinued; and the use of ardent spirits as a drink, or as an article of barter with the Indians, almost wholly abandoned.

IDLE CURIOSITY.

The indulgence of idle curiosity is a fault which equally torments its possessor and her friends. To desire vehemently to know things, which do not at all concern you, and are not in themselves interesting, is a disease of the mind, to which some persons are more liable than others; it is also one which grows by indulgence, and ought therefore to be speedily checked. I know an instance in which a lady's happiness was disturbed for years by being unable to find out how one of her friends disposed of her cast-off clothes; and another, in which the whole pleasure of a summer excursion was marred for one of the party, because there was a box among their baggage, the contents of which she could not find out.

It is inconceivable to me, how any one can care for such things; but, since some persons do, it is well to guard against the first symptoms of such a disorder, or it may overgrow the mind, as in the following instance.

Two old ladies lived in a small town on a great public road; and, having secured a residence directly opposite the only inn in the place, their chief employment and pleasure consisted in watching the arrival of travellers, and sending their only domestic over to the public house, to ask where they came from, whither they were going, and what refreshment they had called for. Such idle curiosity as this argues a very weak and vacant mind; but there are persons of considerable talent and some cultivation and refinement, who are nevertheless inordinately curious to know things which do not in any way concern them. To these I would say, give not the least entertainment to such a propensity; starve it, keep it down, till it is stifled. Fill up your time and your thoughts with pursuits worthy of a rational and immortal being, and there will be no room for impertinent and vagrant fancies.—*Mrs. Farrar.*

SEBASTIAN CABOT.

Sebastian Cabot may be considered the first civilized European, whose discovery of America is a matter of history. The events of his life have been involved in much obscurity; and England, ungrateful England, suffered documents relating to them to be buried, with masses of other valuable manuscripts, in its public offices, till a countryman of ours, the Hon. Richard Biddle, member of Congress from Pittsburg, with combined and successful perseverance, industry, and talent, that place him among the benefactors of mankind, brought out from dust and decay, and presented to the public, treasures of information respecting this enterprising navigator.

Sebastian Cabot was the son of John Cabot, a Venetian, and born at Bristol, about the year 1475. When he was four years old, he was carried to Venice, the city of his ancestors, by his father, where he resided some years. He returned to England, however, while young; and, by virtue of a patent of Henry VII. king of England, dated March 5th, 1496, and granted to John Cabot and his three sons, Lewis, Sebastian, and Sancius, he sailed from Bristol, in the spring of 1497, on a voyage for the discovery of a northern passage to India. It has often been asserted that John Cabot, the father, has had injustice done to him, and that he was an eminent navigator; but there is no contemporary evidence of this fact. All that is known of him with certainty is, that he came to Great Britain 'to follow the trade of merchandise.' His name was introduced into the patent probably as security to the King, who with his usual thrift had made the stipulation that he should receive one fifth part of the clear profits of the voyage.

Sebastian Cabot directed his course to Iceland, and, after stopping there a short time, sailed into the unexplored seas of the west. About five o'clock in the morning of the 24th of June, to his great surprise, 'not thinking to find any other land than that of Cathay,' he came in sight of the western continent, on the coast of Labrador. There is much confusion as to the details of this voyage, though the time of his discovering the continent is satisfactorily ascertained. Columbus did not fall in with the continent till his third voyage, upon which he set sail, May 30th, 1498.

In consequence of the discontents and want of enthusiasm among his crew, Cabot was obliged to return to England earlier than he desired. Through his representations, however, another patent, dated February 3d, 1498, was granted to John Cabot, who died soon afterward. His son, Sebastian, prosecuted the voyage. Little is known of the results of this expedition; but it was probably on this voyage, rather than the former, that he explored the coast, as far as about the latitude of 35°, when he was obliged from want of provisions to return to Europe.

After this event there is a blank in Cabot's life. We hear nothing more of him till 1512, when we find him in Spain, receiving an appointment under Ferdinand. He was there treated with such respect and confidence as to excite the jealousy of the Spaniards, who could not well brook the idea that a foreigner should be so well received. He was made a member of the Council of the Indies, and destined to command an expedition to discover a northwest passage; which was probably frustrated by the death of Ferdinand, which took place January 23d, 1516. When Charles V. came to the throne, Cabot, finding himself probably overlooked and suffering from Spanish jealousy, returned to England. In 1517 he sailed on an expedition, probably to make another attempt to discover a northern passage to India. This voyage was shortened by the mutiny of his sailors and the faint-heartedness of his second in command. In one of his voyages, and it was probably in this one, he proceeded so far north as to be in the latitude of 67½°, on the 11th of June, and penetrated into Hudson's Bay.

In 1518 we find him again in Spain, promoted to the highly honorable office of pilot major. A council was held at Badajos, in April, 1524, to settle the boundaries of the Spanish and Portuguese empires—a council which had been called in consequence of the respective claims of each of these kingdoms to the Molucca islands. Cabot was at the head of the list of men distinguished for nautical knowledge and experience, who attended, not as members of the conference, but for the purpose of reference, as occasion might arise. As soon as the declaration was made in favor of Spain, so far as these islands were concerned, a company was formed to prosecute the trade with them; and Cabot accepted the invitation to take command of the expedition. After many difficulties with the agents of the company, who seemed to try to check and control him as much as possible, and after repeated delays he set sail with three ships and a small barque, in the beginning of April, 1526. Cabot had wished to appoint a lieutenant-general or second in command himself; but the agents would not be reconciled to any other choice than that of Martin Mendez, who was no personal friend. And what was calculated still more effectually to defeat the objects of the voyage was the circumstance that the commander of each vessel had been furnished with sealed orders, to be opened soon after leaving port, which provided for the case of the death of Cabot; *eleven* persons being named, on whom the command should successively devolve. Mendez and two brothers named Rojas, who were his zealous friends, were at the head of the list. On the coast of Brazil a mutiny broke out, at the head of which were these three persons. Cabot was a foreigner, had but two of his countrymen with him, and was viewed with suspicion and dislike. His case seemed desperate, and almost any person would have yielded. But *no*. Cabot, with his wonted resolution, energy, and decision of character, seized the ringleaders, sent them on shore in an open boat, and left them;* and thus produced such an impression on the minds of the rest of the seamen, that not a murmur of dissatisfaction was heard during the remainder of his five years'

* These men were soon afterward taken off by a Portuguese vessel and carried to Spain.

weary and perilous expedition. Such, however, was his situation, in consequence of the loss of officers and men by the mutiny, and of the shipwreck of one of his vessels, that he did not feel at liberty to pursue his voyage without further orders from Spain. Accordingly he entered the La Plata, took possession of the island of Gabriel, nearly opposite where Buenos Ayres now stands. Minute details of his residence in this part of the world have not been transmitted to us. It appears, however, that he built two forts, one of which was probably on a small island near the mouth of the Parana, and the other, on the south side of the Parana, near the small river Terceiro. He proceeded thirty-four leagues up the Paraguay beyond its junction with the Parana. Here three of his men, having separated themselves from the rest to gather fruit from the palm-tree, were seized by the natives; in consequence of which a battle took place, in which twenty-five of Cabot's small party were killed, and three hundred of the enemy.

Soon afterward Cabot was joined by Diego Garcia, a Portuguese, who had followed him immediately after his departure from Spain, with a squadron of three vessels; and who, notwithstanding the decision of the Council at Badajos, was aided and encouraged, if not openly employed, by Portugal. His sole object seems to have been to watch Cabot's movements, and he had traced him to this remote and retired spot.

Cabot transmitted to the emperor an account of his voyage and discoveries. There is reason to suppose there was among these communications a project for conquering Peru. The emperor resolved to fit out an expedition, but was prevented by the state of his finances, till permission was granted to Pizarro to conquer the country at his own expense. If Cabot's plan had succeeded, we can hardly form a distant conjecture of the cruelty that might have been spared, and the entirely different state of things, which might have been seen there at the present day.

Cabot resided in South America some time longer. The conduct of some of Garcia's followers provoked a general attack upon him by the natives. He returned to Spain, in 1531, the main object of his expedition having been defeated; resumed the office of pilot-major; resided many years there, in high repute; and made several voyages. He returned to England, in 1548; but we are unacquainted with his reasons for it. Soon afterward the Spanish ambassador made a demand, that 'Sebastian Cabot, Grand Pilot of the Emperor's Indies, then in England, might be sent over to Spain, as a very necessary man for the Emperor, whose servant he was, and had a pension for him;' but the demand was not complied with. Edward VI. granted him a pension of 166£ 13s. 6d. He explained to the king, in public, the subject of the variation of the magnetic needle, of which he is said to have been the first discoverer. Although it is not probable that he was created grand pilot of England and knighted, as is commonly stated, he was, nevertheless, at the head of the maritime affairs of the nation. About this time there was a stagnation in business, and the London merchants applied to Cabot for advice, as to finding a market for their commodities. He recommended an expedition to the north of Europe. His recommendation was immediately adopted, and the expedition was fitted out under his supervision. The ships were made with great care and strength, and the keels, for the first time in England, were sheathed with lead. Sir Hugh Willoughby was appointed the first and Richard Chancellor the second commander; and their instructions, prepared by Cabot, do great honor to his head and heart. They finally sailed on their perilous voyage, amid the acclamations of courtiers and people. 'Many of them looked oftentimes backe, and could not refraine from tears, considering into what hazards they were to fall, and what uncertainties of the sea they were to make triall of.' And of Chancellor himself it is said, that 'His natural and fatherly affection, also, somewhat troubled him, for he left behinde him two little sonnes, which were in the case of orphans, if he spedde not well.'

The vessels were separated in a storm. Willoughby was obliged to winter in Lapland, and, with all his crew, perished from cold. The two ships were found not long after, with no living thing on board. His journal was continued into the month of January, 1554, and he probably soon afterward stiffened into death by the side of his unburied messmates. Chancellor succeeded in reaching Archangel; journeyed over land to Moscow, where he was hospitably received; and made the necessary arrangements for a safe and extensive commercial intercourse with Russia. A charter was granted to the London merchants, and Cabot was named Governor of the Company for life.

Chancellor was never permitted to behold again his 'two little sonnes,' on whose account his heart was so saddened, at the time of his departure. On his return from Russia, he brought an ambassador. He was wrecked on the north of Scotland, and, with a great part of his crew, was lost, from his neglect to provide for his own safety, in his anxiety for that of the ambassador, who escaped. A profitable trade was opened with Russia, and a spirit of enterprise awakened, which has never been permitted to sleep since. The whale and Newfoundland fisheries may be said to owe their existence to this northern voyage; and the present maritime strength and prosperity of Great Britain are traceable to the way opened for them by Cabot's talents.

In 1556 another vessel was fitted out to the north, and, as it was about to sail, 'the *Right Worshipful Sebastian Caboto* came aboord,' says the narrator, 'accompanied with divers Gentlemen and Gentlewomen; and the good olde Gentleman, Master Cabota, gave to the poor most liberal almes, wishing them to pray for the good fortune and prosperous successe of the Searchthrift, our Pinnesse. And then at the signe of the Christopher, he and his friends banketted; and for very joy that he had to see the towardness of our intended discovery, he entered into the dance himselfe, amongst the rest of the young and lusty company; which being ended, hee and his friends departed most

gently, commending us to the governance of Almighty God.'

Edward VI. died in 1553, and Cabot was neglected by Mary. After a time his pension was renewed, and he was obliged to share it with one William Worthington, into whose hands fell his valuable maps and papers, many of which he had spent great labor in preparing for publication.

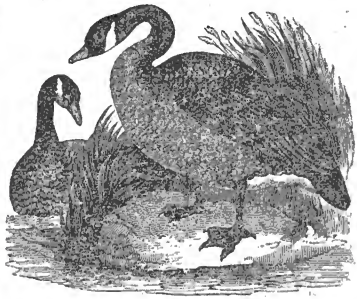
Cabot's ruling passion was strong in his last moments. He spoke flightily, 'on his death bed,' about a divine revelation to him of a new and infallible method of finding the longitude, which he was not permitted to disclose to any mortal. Richard Eden, his pious friend, who attended him, laments that the 'good olde man,' as he is affectionately called, had not yet '*even in the article of death*, shaken off all worldlie vaine glorie.' But his instructions to Sir Hugh Willoughby are distinguished for the religious feeling evinced in them, and his dreams in the moments of his departure were indications of long-cherished habits of thought, rather than of the 'worldlie vaine glorie,' that grieved his faithful and kind-hearted friend. The expiring seaman thought himself again on his beloved ocean, listening to the music of its waters and its storms. Neither the time nor place of his death are known with certainty, though it is not altogether improbable that he died in London, about the year 1557.

Such is the outline of the life of this enterprising navigator and distinguished benefactor of mankind. The claims of England on the new world rested on his discovery. 'The English language,' says Biddle, 'would probably be spoken in no part of America but for Sebastian Cabot.' His birthplace has been denied, 'his fame has been obscured by English writers, and every vile calumny against him eagerly adopted and circulated. All his maps and discourses, "drawn and written by himself," which it was hoped might come out in print, "because so worthy monuments should not be buried in perpetual oblivion," *have* been buried in perpetual oblivion.' Strange that he is not honored with a statue in Westminster Abbey, or St. Paul's! But, though 'he gave a continent to England, no one can point to the few feet of earth, where his ashes rest,

S.

WILD GEESE.

Wilson furnishes us with the following beautiful account of this bird. 'I have never visited any quarter of the country where the inhabitants are not familiarly acquainted with the passing and repassing of the wild goose. The general opinion *here* is, that they are on their way to the lakes to breed; but the inhabitants on the confines of the great lakes are equally ignorant with ourselves of the particular breeding places of these birds. *There* their journey north is but commencing, and how far it extends, it is impossible for us at present to ascertain. They were seen by Hearne in large flocks within the arctic circle, and were then pursuing their way still farther north. They have been also seen on the dreary coast of Spitzbergen, feeding on the water's edge. It is highly probable that they extend their migrations under the very pole itself, amid the silent desolation of unknown countries, shut out from the eye of man by everlasting barriers of ice. That such places abound with suitable food, we cannot for a moment doubt.



'The flight of the wild goose is heavy and laborious, generally in a straight line, or in two lines approximating to a point. In both cases, the van is led by an old gander, who every now and then pipes his well known *honk*, as if to ask how they come on; and the *honk* of "all's well" is generally returned by some of the party. When bewildered in foggy weather, they appear sometimes to be in great distress, flying about in an irregular manner, making a great clamor. On these occasions, should they alight on the ground, as they sometimes do, they meet with speedy death and destruction. The autumnal flight lasts from the middle of August to the middle of November; the vernal flight from the middle of April to the middle of May.

'Wounded geese have frequently been domesticated, and readily pair with tame geese. On the approach of spring, however, they discover symptoms of uneasiness, frequently looking up in the air, and attempting to go off. Some, whose wings have been closely cut, have travelled on foot in a northerly direction, and have been found at the distance of several miles from home. They hail every flock that passes over head, and the salute is sure to be returned by the voyagers, who are only prevented from alighting by the presence and habitations of man. The gunners sometimes take one or two of these domesticated geese with them to those places over which the wild ones are accustomed to fly; concealing themselves, they wait for a flight, which is no sooner observed by the decoy geese, than they begin calling aloud, until the flock approaches so near, that the gunners are enabled to make great havoc among them with their musket shot.'

Early rising.—Dean Swift says, that 'he never knew any men to rise to eminence, who lay in bed of a morning;' and Dr. Franklin, in his peculiar manner, says, that 'he who rises late may trot all day, but never overtake his business.'

PRESENT STATE OF IRELAND.

From Dr. Humphrey's Letters.

Poor, starving, misgoverned, 'meted-out and trodden-down' Ireland! What shall a stranger, from the other side of the ocean, just touching upon thy borders, and glancing at thy beggary, and lending his ear only for a few days to thy complaints—what shall he say? How little can he know from personal observation of the extent of thy poverty, of the depth of thy wretchedness, or of the causes of thy manifold sufferings? And yet he can see and hear more than enough in a single week, to make his heart ache, nay *bleed*, from hour to hour, and, if he is an American, to call forth many thanksgivings to Him, 'who maketh his own beloved country to differ so essentially from this teeming, but famished, almost outcast island of the sea.'

I need not say, that the history of Ireland, for six centuries, is a history of wrongs, and sufferings, and crimes—a mournful record, on nearly every page, of idleness and starvation—of ignorance and superstition—of oppression, rebellion, and slaughter. Its present condition, certainly, is not so deplorable as it was two centuries, or even half a century ago. Between 1724 and 1772, there were *eleven* years of famine in Ireland; and not one year of what we should call plenty, throughout the whole island. But although the people are now, perhaps, better fed, better clothed, better sheltered, and better governed, than they have been at almost any former period, the state of the country, especially as it regards subsistence, mendicity, and want of employment, is deplorable. The following statements, extracted from the report of the Commissioners, who were some time since appointed by the king, to inquire into the condition of the poorer classes in Ireland, and which was made to Parliament at the last session, are truly appalling.

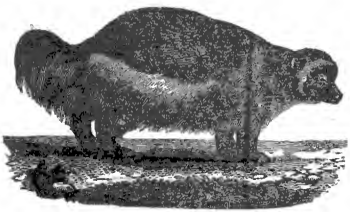
'That a great proportion of the laboring population, are insufficiently provided with the common necessaries of life. That not less than 2,385,000 persons of that class are in distress, and require relief *thirty* weeks in a year, owing to want of work. That the wives and children of many are obliged, reluctantly and with shame, to beg—and mendicancy is likewise the sole resource of the aged and impotent of the poorer classes, in general; whereby encouragement is given to imposture, idleness, and crime.'

I have already, in a former letter, glanced at the filth, and wretchedness, and swarming beggary of two or three considerable towns, through which I passed, and although I did not go into the poorer districts of the south and west, at all, I saw enough every where to convince me, that the above picture, presented by the Commissioners to the British Legislature, is not overdrawn. Even in *Dublin*, where provision is made for the poor, at what we should consider most enormous expense, and they are forbidden by the city authorities to beg in the streets, you can scarcely walk fifty yards, without being assailed by some miserable object in human form, imploring your compassion; and if you stop to inquire into the case, you are gone:—no, I do not mean that exactly—but you may as well make up your mind at once, to stand a regular siege, or rather *assault* from five, or ten, more or less, who are sure to surround you and deafen you by their importunity. The manner in which they swarm around the hotels and infest the more public places of resort is extremely annoying; and the expedients which they employ, to arrest your attention and excite your sympathy, are often disgusting, and sometimes inhuman. Passing, about ten o'clock one evening, by the old Parliament house in Dublin, I almost stumbled, under the portico, upon a group of children nestled down, apparently for the night, close to the wall, upon a little straw, or an old rag perhaps, but without any covering at all. Here was a picture of starvation and death, which I shall never forget, consisting of a girl, eight or nine years of age, a little boy, I believe, about half as old, and an infant under a year. It struck me with a feeling, but little short of horror, for I really thought the child was dead—it was so still and so pale. I saw it in the same place the next day—the breath of life was in it, for it moved and moaned; but I am sure it must have been nearly famished or in the last stage of disease. The object of this inhuman exhibition, by night and by day, undoubtedly was, to excite the compassion of strangers and get money; and it is not at all improbable, that the parents of these children were themselves hale and sturdy beggars, pursuing their vocation in some other part of the city.

As an illustration of the miserable state of the Irish poor, I will just mention an incident, which occurred on our return from the Giant's Causeway. The sun was just going down, when a lad, about twelve years old, came up upon the trot, behind our carryall. He was miserably patched and tattered, and had a kind of coarse satchel slung over his shoulders. Being encouraged to advance, he walked and ran along by our side for some distance, holding on in the best way he could. 'What have you got there my boy?' 'Potatoes, sir.' There was about half a peck in his bag. 'Is here all they gave you for your day's work?' 'I did not work for them, sir.' 'How then did you get them?' '*I travelled* for them.' '*Travelled* for them! what does that mean?' Here my friend Mr. C. explained that it meant *begging*. 'But why do you beg potatoes? A boy of your age ought to work for them.' 'Can't get any work to do. Nobody wants me.' 'Where do you live?' 'Down beyond Bellamony.' 'What does your father do?' 'My father is dead, sir.' 'Have you a mother living?' 'Yes.' 'What work does she do?' 'She is sick most all of the time, so that she can't do anything.' 'Have you any brothers and sisters?' 'Yes.' 'Older or younger than you are?' 'Younger.' 'Have you had any dinner to-day?' 'No.' 'What do you expect to have for supper?' 'Some of these potatoes after I get home, and mother boils 'em.' 'Will she and the children have to wait for their supper till you come home with your potatoes?' 'Yes.' Now here was a boy able to do half as much as a man, *travelling* all day for half a peck of potatoes! half

starved himself, and hastening home two or three miles further to his poor sick mother, and the children, not yet old enough to travel—doubtless crying for their supper, and looking out every moment for his return. This, I was assured, is, even in the north and best part of Ireland, a common case. Potatoes are almost the only food of the great mass of the people. I went into several of their huts, near dinner time, and supper time, and saw nothing else. As for meat, it is with the peasantry quite out of the question. If they can but raise even but a moderate supply of potatoes they feel rich. It is true, that in almost every Irish cabin you will see a pig, and sometimes a very fat one too—but it goes to the landlord for *rent*.

What should we in this country think, if we were so reduced and straitened? How would the poorest class in any part of the United States grapple with poverty like this? To live on potatoes all the year round, and not half enough of these? To get half a peck, or perhaps none at all, for a whole day's begging! But 'who maketh us to differ from others?' Why are not our necessities as gnawing and ravenous as theirs? Who gave us this good and fruitful land, and all the blessed institutions under which we live, and to which we are indebted for the superiority of our physical condition, as well as our own moral and religious privileges? Alas, for our unthankfulness and our wicked murmurings, under the allotments of the most beneficent Providence, that ever smiled upon any people!



The Wolverene or Glutton.

THE GLUTTON.

From accounts given by Godman, Smellie, Rees, and others, we learn that the wolverene or glutton varies somewhat in size and color. It is generally, however, about two feet and two inches long from the end of the nose to the origin of the tail, and the latter is about eight inches in length, if the hair on its extremity be included; without measuring the hair, the length is but four inches. The muzzle, as far as beyond the eyes, is blackish-brown, and covered with hard, shining hair. A whitish or ash-colored band or fillet runs over the forehead and down the sides of the head between the eyes and ears. The top of the head and the whole length of the back are black-brown, the color widening somewhat over the sides as it passes on, and again lessening or contracting towards the tail; or, in other words, the color of the body is a fine glossy black-brown, with a ferruginous tinge along the sides, so as to form a lateral zone. The ears are covered with harsh hair, the lower jaw and inside of both fore legs are spotted with white. The fore legs are upwards of eleven inches long, and the hind legs one foot.

Gluttons are very voracious, and prey indiscriminately on fresh food and carrion. M. Klein says, that one, which was brought from Siberia to Dresden, ate every day thirty pounds of flesh, without being satisfied. They devour birds and mice, and even attack very large animals. They destroy great numbers of foxes during summer, while they are small, discovering their burrows by their keen scent; and, if necessary, enlarging the cavity so as to gain access to the bottom of the den, where the mother and cubs are speedily killed. They are inimical and destructive to the beaver as well as to other animals, though the habits of the beaver expose it less to this sanguinary quadruped, which is generally successful in securing his prey only when the beaver is caught at any distance from the margin of the water.

In some instances, it is said, they show great artifice in taking their prey. In Kamtschatka, it has often been asserted, (though we cannot vouch for the truth of the statement,) that they climb trees and take up with them a quantity of that species of moss of which deer are very fond. When the deer comes near the tree, the glutton throws down the moss. If the deer stops to eat it, he springs upon his back, fixes himself firmly between the horns, tears out the eyes of his victim, or tortures him and sucks the blood, till the animal falls down from weakness, and then he begins to devour his prey; or else he torments him so, that in order to end his torments or to get rid of his cruel enemy he strikes his head against the trees till he expires. On the river Lena the glutton has been known to kill horses in the same manner. In the winter it seeks out and catches ptarmigans, under the snow. What it cannot devour it hides in the ground or in the cavity of a tree, to supply its future wants. It has great strength, courage, and fierceness, and will sometimes dispute the prey both with the wolf and the bear. It has been seen to take away from the wolf the carcass of a deer; and when itself engaged in feeding has refused to move, though warned of the approach of the hunter, who shot it while standing as if prepared to maintain its prize. It is much abroad in the winter, and in Canada is a great annoyer of the inhabitants by demolishing their marten traps, to come at the bait, and by devouring the game before the hunter gets to it. It is also extremely fetid. It brings forth from two to four young once a year. The fur is much used for muffs, linings, and the like purposes. Those skins are said to be preferred, which have least of the ferruginous tinge, and consequently the Siberian variety, which is blacker than the others, is most esteemed. The animal is a native of the most northern parts of Europe and Asia, and is found in Sweden, Norway, Lapland, and Siberia, as well as in some of the Alpine regions, and in the forests of Poland, and in the northern parts of America. S.

IDLE SEARCH AFTER GOLD AND SILVER.

From Professor Hitchcock's Geological Report.

The large quantities of the precious metals carried to Europe from South America, soon after its discovery, naturally produced some expectation of finding similar treasures here. But I cannot learn that our forefathers expended large sums in making excavations, where there was no reasonable prospect of finding any thing valuable. It was reserved for their descendants to exhibit a credulity and superstitious ignorance on the subject, that are both lamentable and ridiculous.

Perhaps, at the present day, a belief in the mysterious virtues of the mineral rod, is the most common of these delusions. Probably many of our intelligent citizens can hardly credit the statement, that there are men in various parts of the State, who profess not a little skill in this enchantment, and are not unfrequently sent for, one or two days' journey, to decide whether there be ore or springs of water in a particular place. In general, but not always, these professors of divination belong to the most ignorant classes in society; for not long since, a venerable and respectable man, of good education, sincerely thought it his duty, occasionally to peregrinate with his divining rod, because *it would work in his hands;* and not a few intelligent men have a secret belief that the branches of a witch hazle are attracted downward towards mineral substances, when in the hands of a certain individual.

The following train of circumstances often takes place. A man, ignorant of mineralogy, finds upon his farm a specimen of iron pyrites, or yellow mica, or galena, which he mistakes for gold or silver. Even if he shows it to a mineralogist, and is told that he is mistaken, he suspects that his informant is deceiving him, in the hope of getting possession of the prize himself. He resolves to begin an excavation. And he sees enough, in the shining particles of mica and feldspar that are thrown out, to buoy up his hopes, until his purse is well nigh drained.

It was probably in some such way, that the excavations were made in Worcester and Sterling, at the mines of arsenical iron and carbonate of iron; although, in these cases, there would be sufficient ground for obtaining some of these ores, since they do sometimes contain silver. But I cannot conceive why such extensive excavations were made, when a chemist might have easily settled the question as to their nature, by analyzing 100 grains of the ore, unless it was on the erroneous supposition, which I find to be common, that metallic veins generally become much richer and larger, and even change their contents, as they descend into the earth.

The decomposition of iron pyrites, producing heat and sometimes explosion, is supposed by some to be a strong indication of mineral riches in the earth beneath. The man of the witch hazel rod is called, and if he confirms the suspicion, as he usually will, the excavation is commenced; nor is it suspended until a heavy draft has been made upon the man's pecuniary resources. An extensive excavation was made, many years ago, I am told, in Hubbardston; and from the character of the rock there, I suspect that iron pyrites gave the first impulse to the undertaking. In Pepperell, an individual has been engaged for several years, in pushing a drift into the rocks, which he has penetrated eight or ten rods; although individuals who have visited the spot, (I have not,) can discover nothing but iron pyrites.

In the year 1815, an individual succeeded in getting a company formed and incorporated, with a capital of eighty thousand dollars, called the Easton lead and silver mining company. The fruits of their labor may be seen in an excavation, in red granite, nearly one hundred feet deep, at present nearly filled with water. I could not find a particle of ore, of any kind, in the fragments blasted out. A final stop was put to the work, by the killing of two men in blasting.

Forty years since, a shaft was sunk in Mendon, in search of the precious metals. A little specular oxide of iron occurs at the place.

Not many months since, an individual called upon me, with specimens of black blende or sulphuret of zinc, found in a neighboring town, and which he strongly suspected to be silver. I informed him of its true nature; and, seeing that the vision had got strong hold upon his mind, I did all in my power to persuade him not to engage in searching for the ore. But the only effect was to stimulate him to commence an exploration with more ardor. The zinc was found in a loose piece of rock lying in the field. The man's impression was, that even if that ore was of no use, it indicated something valuable beneath. Accordingly he commenced digging. Ere long, his faith was strengthened, by some one's discovering a light, during the darkness, near the spot; and the last time I heard from the man, he had penetrated the soil about seventy feet.

The following case has been stated to me on such authority, that I do not doubt its correctness.

Some forty or fifty years ago, a farmer residing not far from the centre of Massachusetts knocked off from a rock, upon his farm, a piece of ore, which he sold in Boston for a considerable sum, as a rich ore of silver. From that time till the day of his death, he searched in vain for the rock from which it was broken. The inference, which he drew from his ill success, was that Satan (who is thought, by multitudes, to have unlimited power over the mineral treasures of the earth) had concealed or removed the precious vein. Conceiving, however, that some of his posterity might have more interest with that personage than himself, he reserved to them the right of digging the ore, in the instrument which conveyed away his title to the land. His posterity were not forgetful of the reservation; but they were convinced it would be of no use to them, unless they could meet with some individual who had *entered into a league* (as the phrase is with the class of people whom I am describing,) with his Satanic majesty. Last year they heard of such a man, a German in Pennsylvania, who had obtained possession of a wonderful glass, through which he could discover whatever lies hid beneath the soil. The German was per-

suaded to visit the spot, and when I passed through the place, a little more than a year ago, an excavation was about to be commenced under his direction. And I have since been told the work was prosecuted till the owner's property was well nigh expended.

Still more ridiculous than the opinions and practices above mentioned are some still existing in a few places in the State, relative to deposits of money, said to have been made by one Kidd, a celebrated bucanier of early times. The statement is, that he frequently ascended our streams a considerable distance, and buried in their banks large sums of money. These are supposed to be guarded with sleepless vigilance by the personage mentioned before. But by the use of certain incantations, while digging for the treasure, it may be wrested out of his hands; for instance, perfect silence must reign during the operation, unless it be broken by the reading of the bible, and all must be done in the night. The last instance of the practice of this mummery, which I have heard of, occurred a few years since on one of the branches of Westfield river. A hundred days' work were expended upon the enterprise before it was abandoned. At one time those employed in this work were greatly discouraged by the intrusion of my informant, who, in spite of all they could do by gestures, broke silence and thus dissolved the charm. At another time, courage was revived by finding an iron pot, containing some bits of copper; deposited there, the day previous, by some boys who had learned what was going forward.

I have given these rather mortifying details, partly because I doubt whether nine tenths of our population are aware of the existence of such opinions and practices among us; and partly in the hope that the exposition may be instrumental in entirely eradicating them from the minds of those who have been thus deluded. For, like night fogs, they need only to be brought into the light of day to be dissipated.

INTELLIGENCE OF THE AMERICAN PEOPLE.

It cannot be doubted, that in the United States the instruction of the people powerfully contributes to the support of a democratic republic; and such must always be the case I believe where the instruction which awakens the understanding is not separated from the moral eduction which regulates manners. Yet I by no means wish to lay too much stress on this advantage; and I am far from thinking, as many people in Europe do, that men can be instantaneously made good citizens by teaching them to read and write. True information is mainly derived from experience; and if the Americans had not been gradually accustomed to govern themselves, their book learning would not assist them much at the present day. I have lived a great deal with the people of the United States, and I cannot express how much I admire their experience and their good sense. An American should never be led to speak of Europe, for he will then probably display a vast deal of presumption, and very foolish pride. He will take up with those crude and vague notions upon which the ignorant all over the world love to dwell. But if you question him respecting his own country, the cloud which dimmed his intelligence will immediately disperse, and his language will become as clear and precise as his thoughts. He will inform you what his rights are, and by what means he exercises them; and he will be able to point out the customs which obtain in the political world. You will find he is well acquainted with the rules of the administration, and that he is familiar with the mechanism of the laws. The citizen of the United States does not acquire his practical science nor his positive notions from books; he learns to know the laws from participating in the act of legislating; he takes lessons in the forms of government from governing; the great work of society is ever going on before his eyes, and, as it were, under his hands. In the United States politics are the end and aim of education; in Europe, its powerful object is to fit men for private life.—*De Tocqueville.*

Giving a tiger a pinch of snuff.—Dr. Dunlap, while in the West Indies, conquered a royal tiger with a bladder of Scotch snuff. The doctor having crossed the river Ganges with his quarterly allowance (seven pounds) of snuff, observed a tiger at some distance. Being without guns, he ordered his men to use their oars as weapons of defence. They formed into a close column, with their backs to windward, whilst the doctor emptied the contents of a bladder into a piece of canvass, and danced upon it till it became as fine as dust. The tiger continued winding, and occasionally crouched. When he approached within twenty yards of the party, the doctor discharged about half a pound of the ammunition; part of which was carried by the strong wind into the face of the tiger. The tiger growled, shook his head, and retreated. In a few minutes he returned to the charge, approaching the party cautiously and occasionally rubbing his eyes with his fore legs. When within about fifteen yards of the party, he again crouched; and as he was preparing to take the murderous spring, the doctor and his party let fly at him about two pounds of snuff, which told well; for the royal tiger commenced roaring, and, springing into the Ganges, fled to the opposite shore. For this achievement the doctor received two hundred rupees, a silver snuff-box, and the title of *Tiger* from a native prince.

Anecdote of a mouse.—The Niagara Democrat relates the following curious experiments, which were made upon a mouse which was caught in a glass jar, at a store in that village. A small hard-twisted linen thread was suspended in the jar, so that the mouse could reach it standing upon the bottom. It clasped the thread with its fore feet, but its hind feet would not adhere to it. To remedy this difficulty, the little animal gnawed and loosed the fibre of the thread with its teeth, to obtain a hold for its hind feet, where it placed them, and raising itself further up, continued gnawing spots at regular distances, as a biped would climb by notching with an axe, until it raised itself to the top, when the cover prevented its escape.

THE OPOSSUM.

The opossum belongs to the class of animals called *marsupial*, from the circumstance of their having a pouch or bag (*marsupium*) for containing their young after birth. It is about the size of a cat and is covered with a thick fur of a dingy cast. Its head is long and pointed; the line of its profile nearly straight; its ears large and naked; its eyes small but expressive; its mouth deeply cut and with a wide gape; and its tongue roughened with horny papillæ. The tails of these animals are long and tapering, covered with long hair at the base, and with scales throughout the remaining part, which is extremely flexible and strongly prehensile, enabling them to climb trees with great facility. Their tails are also of essential service in another point of view, the little ones, when frightened, leaping upon their mother's back, twisting their tails round hers, and in this singular fashion escaping with her assistance from the threatened danger. Their legs are rather short; on the fore-feet are five toes, all of them terminating in strong, sharp, curved claws; the hinder feet have the thumb separated from the rest, distinctly opposable, as in the monkeys, and entirely destitute of nail or claw. The claws of the other toes correspond exactly with those of the anterior extremities.

The most remarkable circumstance with regard to these animals, is the premature birth of their young, and the exceedingly unformed and imperfect state in which they are brought into the world. They are incapable of motion, and scarcely exhibit even the rudiments of limbs or other external organs. Their mouth is simply a round orifice without distinction of parts; but by means of it, they attach themselves to the nipples of the mother, and there remain immoveably fixed, deriving their nourishment from them, and gradually improving in shape, and increasing in size, until they are as completely formed as other animals are at the time of their birth.

The female is furnished with a duplicature of the skin of the abdomen, which forms a kind of bag, covering the nipples, in which it places its young and preserves them during the period of helplessness. Frequently, indeed, even after they have acquired strength to leave this pouch, they retreat into it, upon the approach of danger. Sometimes, in place of the pouch, there is simply a fold of the skin. The pouch is supported by means of two bones attached to those of the pelvis, from which proceed muscles that open or contract its mouth like the opening of a purse.

Opossums are found in many parts of the United States. When pursued or overtaken, they feign themselves dead, and will give no signs of life during the presence of their assailant, although tortured to a great degree. They pass the day in a state approaching to torpidity, but prowl abroad during the night. They prey upon birds and the smaller quadrupeds, frequently making the poultry-yard the scene of their devastations, and sucking the blood of their victim before gorging themselves upon his flesh. Their young, which are sometimes six or seven in number, are exceedingly small; and, although blind and without limbs, find their way by a sort of instinct to the nipples, and adhere to them till they have attained the size of a mouse, which is not until the fiftieth day, when also they first open their eyes. They continue to return into the pouch, until they reach the size of a rat.

While living the opossum emits a fetid odor; yet its flesh makes excellent food, being said to resemble that of a sucking pig. The hair, which is of considerable length, is spun by the American Indians into thread, dyed red, and then woven into girdles and other parts of dress. A.

A SHORT STORY AND A TRUE ONE.

A lovely morning in October 17—, was rendered a gloomy one to the inhabitants of Martinique. Repeated injuries inflicted by the ruling powers, coupled with a burning desire among many ambitious, and perhaps patriotic men, to crush foreign influence on their beautiful island, and to govern themselves as a free and independent people, had long rendered a residence there precarious. On the morning in question, the banner of revolt was seen floating in proud defiance upon the walls of the castle of Fort Royal, and in the far distance the smoke of villages showed the track of the merciless demon of insurrection. Every vessel in the harbor of Fort Royal was crowded with refugees, who, having hastily collected the most valuable of their effects, had fled before the tide of destruction, which was rolling fearfully over that ill-starred island. Among them was a merchant of high repute, who, with his wife and daughter, a beautiful girl of about fifteen, took passage for France, whither, on the following day the vessel sailed. Fair winds gave them a quick passage to the Cape de Verds, and after a tarry of a day or two there, they weighed anchor for Havre. At dawn on the second morning after their departure, they espied

a dark looking brig bearing down upon them, and as the sun rose above the horizon, it portrayed to them the truth that an Algerine corsair was their early visiter. So much were the high seas infested at that time with pirates, that every vessel went prepared for an encounter. Immediate preparation was made for a contest, should the corsair overtake them, and all sails were spread to the breeze.

The pirate came up. The contest was fearful. The father and mother were murdered—and the beautiful orphan was made the prize of a band of ruffians. In a few days they neared the Barbary coast, and she was sold to the Bey of Tunis for ten thousand sequins. The prediction of a fortune teller, years before, that she would one day wear the coronet of a queen, impressed her mind with a conviction of its truth, which spread a halo of light around her amid the darkness of the worst of slavery. Her beauty made her a favorite, and about two years afterward, Sultan Mustapha carried her in triumph to Constantinople. Her beauty, her virtues, and her ample powers to please, made her the exalted favorite of the imperial seraglio, and she became the honored sultana. Then, indeed, were the predictions of her destiny verified, and she wore the crown as queen of the Ottoman empire. Mahmoud II., the present sultan of Turkey, is her son, and to her influence upon his early character, may be attributed his taste for European customs, and the frequent innovations which his will has made among the customs of his people. The last act of importance, and which seems like a great stride towards the elevation of Turkish women to the same station which women hold throughout Christendom, is the opening of the doors of the seraglio, and permitting his women to go in and out, at their pleasure, and enjoy themselves by rambles upon the lovely plains which stretch along the banks of the Bosphorus. The number who were confined in his seraglio was about six hundred.

The fate of that young girl was similar to that of Josephine, wife of Napoleon. She too, was the subject of a similar prediction, and even when confined by prison bars, and upon the eve of conveyance to the guillotine, that prediction stood up before her with all the brightness and sacredness of truth; and when the downfall of Robespierre caused her prison to be thrown open, 'There,' exclaimed she, to Madame Fontenay, a fellow prisoner, 'I told you I should yet be queen of France.' And she was indeed queen, not only of France, but of the heart that beat in the bosom of that proud Corsican.—*Poughkeepsie Telegraph.*

Anecdote of a dog.—A curious instance of the sagacity of a dog has just been related to us on such good authority that we cannot doubt its correctness. A gentleman who owns a fine Newfoundland dog, seeing the animal rush into the street and seize a negro woman, immediately interfered and calling him off made him go with him into his office, where he caused him to remain. The dog continued to appear dissatisfied to such a degree that his master was induced to think there must be something wrong, and recollected at the moment that a pair of cushions had been left in a sleigh opposite the door. On examining the sleigh one of the cushions could not be found. The master immediately called to his dog, 'find it, Carlo,' and the animal dashed off up the street, followed by his owner. They had not gone far before three colored women were seen who soon separated, two of them going one way, the third in an opposite direction. The gentleman followed the two, and having overtaken them demanded the cushion. They protested that they had stolen nothing, and offered to let him search them. Finding that they had nothing, he went in search of Carlo, and ascertained that he had caught the real thief, the woman who had turned in the opposite direction, and held the stolen cushion in his mouth.—*Balt. American.*

'I WOULD NOT LIVE ALWAYS.'

BY REV. DR. MUHLENBURG.

I would not live always—live always below!
Oh no, I'd not linger, when bidden to go.
The days of our pilgrimage granted us here
Are enough for life's woes, full enough for its cheer;
Would I shrink from the path, which the prophets of God,
Apostles, and martyrs, so joyfully trod?
While brethren and friends are all hastening home,
Like a spirit unblest, o'er the earth would I roam?

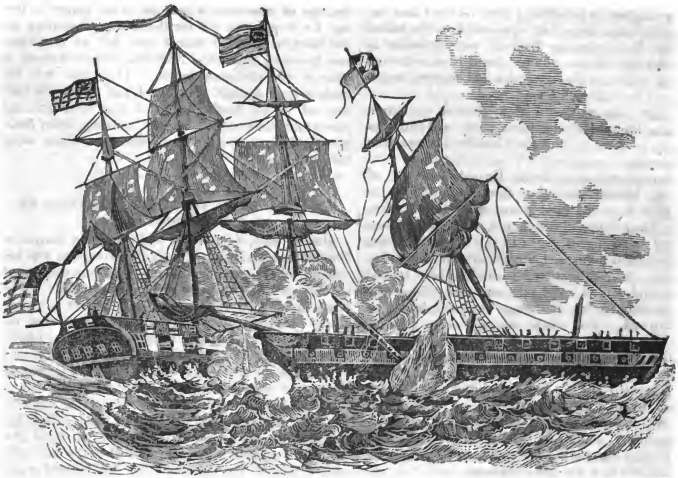
I would not live always—I ask not to stay,
Where storm after storm rises dark o'er the way,
Where, seeking for peace, we but hover around,
Like the patriarch's bird, and no resting is found.
Where hope, when she paints her gay bower in the air,
Leaves its brilliance to fade, in this night of despair;
And joy's fleeting angel ne'er sheds a glad ray,
Save the gleam of the plumage that bears him away.

I would not live always—thus fettered by sin;
Temptation without and corruption within;
In a moment of strength, if I sever the chain,
Scarce the victory's mine, ere I'm captive again.
E'en the rapture of pardon is mingled with fears,
And my cup of thanksgiving, with penitent tears;
The festival trump calls for jubilant songs,
But my spirit her own *miserere* prolongs.

I would not live always—no, welcome the tomb,
Immortality's lamp burns there bright 'mid the gloom;
There too is the pillow, where Christ bowed his head;
Oh, soft are the slumbers on that holy bed;
And then the glad dawn soon to follow that night,
When the sun-rise of glory shall beam on my sight;
When the full matin song, as the sleepers arise
To shout in the morning, shall peal through the skies.

Who, who would live always? away from his God,
Away from yon heaven, that blessed abode,
Where the rivers of pleasure flow o'er the bright plains,
And the noontide of glory eternally reigns;
Where the saints of all ages in harmony meet
Their Savior and brethren transported to greet;
While the songs of salvation unceasingly roll,
And the smile of the Lord is the feast of the soul.

That heavenly music! what is it I hear?
The notes of the harpers ring sweet in my ear!
And see, soft unfolding those portals of gold!
The King all arrayed in his beauty, behold!
O give me, O give me the wings of a dove!
Let me hasten my flight to those mansions above:
Ay, 'tis now that my soul on swift pinions would soar,
And in ecstacy bid earth adieu evermore.



Action of the Constitution and Guerriere.

CONSTITUTION AND GUERRIERE.

From the official reports of the American and British officers, it appears that on the nineteenth of September, 1812, the Guerriere, commanded by Captain Dacres, was discovered from the mast head of the Constitution, under the command of Captain Isaac Hull, in latitude forty-one degrees, forty-two minutes, and longitude fifty-five degrees, forty-eight minutes. The Constitution was immediately made ready, and bore down for close action. The Guerriere, after firing two ineffectual broadsides, continued wearing and manœuvring for three quarters of an hour, then bore up; and the two frigates being along side and within half pistol shot, the Constitution commenced a heavy fire from all her guns, double shotted with round and grape. In fifteen minutes the mizen mast of the Guerriere went by the board and the main yard in the slings, and the hull, rigging, and sails were very much torn to pieces. The fire was kept up fifteen minutes longer, when the mainmast and foremast went, taking with them every spar except the bowsprit, and she surrendered, the hull having been so shattered, that a few more broadsides must have carried her down. At daylight the next morning the lieutenant on board the prize hailed the Constitution, and gave information that she was in a sinking condition and had four feet of water in the hold. The prisoners were immediately removed; at three o'clock, P. M. she was set on fire, and shortly after blew up. She rated thirty-eight guns and carried forty-nine; the odd one shifting, which made it equal to two. She mustered at quarters on going into action 244 men and nineteen boys. Her loss was fifteen killed and sixty-three wounded. The Constitution rated forty-four guns and mounted fifty-five; her complement of men was 450, and in the action seven were killed and seven wounded. The quantity of ammunition spent by her in the action was 300 24lb. shot—230 32lb. shot—10 18lb. shot—140 32lb. grape—120 24lb. grape—40 24lb. cannister—60 32lb. cannister—40 24lb. double headed —2376 lbs. gunpowder.

We have already given an outline of the history of the Constitution, in the first volume of the American Magazine; and on page 514th, of the same volume, are some stanzas entitled 'Old Ironsides,' by O. W. Holmes, M. D., respecting which we find the following interesting statement in the Monthly Magazine, in a notice of Dr. Holmes's poems.

'We hail with peculiar pleasure the thrilling stanzas which were first known to the public by the title of 'Old Ironsides.' And here we have to relate an anecdote, which is as striking an illustration as ever came to our knowledge, of the truth of that saying, 'Let me make the ballads of a people, and I care not who makes their laws.' They were printed in the 'Boston Daily Advertiser,' at the time when the frigate Constitution lay at the navy yard in Charlestown, and it was proposed to break her up as unfit for service; and had it not been for these indignant stanzas, the old ship would have been dismantled. We state this on undoubted authority. The department had actually determined upon breaking up the ship. The order was about to be issued when these verses appeared. They ran through every newspaper in the Union, and were circulated through the city

of Washington in handbills; and so loud and indignant became the public opposition to the measure, that Mr. Secretary Branch, not choosing to encounter the odium which would have followed the destruction of the venerable old frigate, ordered her to be refitted for sea.'

We give this anecdote as we find it, though it assigns a different cause from what we had supposed to be the one why the Constitution was not condemned.

A phaeton was made by L. Knowles and Co., of Amherst, Massachusetts, of the wood which was taken from it, at the time it was refitted at Charlestown. They obtained fragments, which they sawed into very small pieces, so as to select portions that were free from holes and the discoloration by shot and nails, in order that the pannels, when united by glue and screws, might present an uniform polished surface, giving the whole the complexion of solid live oak. The whole carriage, every atom of which is composed of the oak of the ship, is without paint, the beauty of the surface being derived from the native color of the wood, and the high finish given to it. It was presented to President Jackson by a committee of citizens from New York, with a suitable address and letter, to which the President made an appropriate reply; and when he had completed his public career, he took his departure in it for the hermitage. S.

PRIZES TO VIRTUES.

Among the list of persons to whom were recently decreed the Monthyon prizes of the French Academy for virtuous actions, the following cases are mentioned. Claudine Teille received a medal of one thousand francs' value. This woman has devoted her whole life, all her time, all her property to primary instruction, without any other recompense than the pleasure of teaching little shepherds to read. These children are fed, and taught; and now, though grown decrepit, leaning on two crutches, spinning at her distaff, she still continues her noble and modest business. Jeanne Paselle also received a medal of a thousand francs' value. This woman, during twenty years, was the nurse of her father, and was compelled, every time he took nourishment, to force open with her feeble hands his mouth, which was convulsively pressed together, from whence a torrent of blood flowed, and in the effort her own fingers were lacerated and finally became entirely mutilated.

Another prize of smaller value was decreed to the widow Anconin, the daughter of a sea captain, and whose husband had been master of a coasting vessel. She, without any fortune, by her own labor alone, had supported, nursed, and assisted for fifteen years, six children of a sister, and the husband of that sister, who had fallen into decrepitude. The two first prizes, of four thousand francs each, belonged of right to Lawrence Queter, a fisherman of Donia, who at fifteen years of age had already saved the lives of twenty-nine persons, and to Louisa Renee Manard, a young lady born rich and destined to a life of ease and pleasure, who had chosen charity as her only pleasure—this was her vocation, her hope, and her reward. At the age of nineteen, when one is so happy in living for happiness, or for the hope of gaining it, she thought only of others, and fed at that time two hundred families. Nicholas Plege received a prize of two thousand francs. This man was by trade a rope dancer, and used the agility he had learned in his profession in striding over burning joints and shaking rafters, and running from danger to danger to save men wherever there were men to be saved.

ANECDOTES OF THE LATE EMPEROR OF AUSTRIA.

During one of his visits to Baden the Emperor Francis was walking through the streets, as was his custom, like a private gentleman, and accompanied by only one or two persons of his household. He saw a funeral approaching; it was that of a beggar whom poverty had so bereaved of friends, that no one followed his remains to their last resting-place. This melancholy spectacle produced a profound impression on the Emperor's feelings. Turning to the person who accompanied him, he said, 'Since this poor creature has no friend to see him interred, we will perform that sad office and follow his remains to the grave.' He walked behind the coffin, his attendants followed, and every one who passed, seeing the Emperor in the funeral train, successively ranged themselves in the procession. On arriving at the burial-place, the Emperor uncovered, and offered up a pious prayer for the soul of the poor beggar. The history of the heroic ages presents few traits more sublime than this.

The Emperor's last visit to Prague, in 1833, was marked by a circumstance no less honorable to his feelings. His majesty's hours of audience were fixed the same as at Vienna. One day, a poor woman was amongst the number of the supplicants. Her only means of living was a lute, upon which she played about the streets, and which by some accident had become injured. She said she could not afford to pay for the necessary repair, which would cost five florins. The Emperor gave her a purse containing ten. The woman looked at him with mingled gratitude and surprise, and gave him to understand that she needed but one half of the money. 'Never mind,' said the Emperor, smiling, 'keep it; the lute may be broken again, and you will not always have me here to pay for repairing it.'

In the year 1759, Dr Will wrote a pamphlet, entitled 'To David Garrick, Esq. the petition of the letter I, in behalf of himself and sisters.' The purport of it was to charge Mr. Garrick with pronouncing the letter I, in some words, like U, as furm for firm, and vurtue for virtue, &c. Mr. G. immediately wrote the following epigram to Dr. W.

If 'tis true, as you say, that I have injured a letter,
I'll change my notes soon, as I hope, for the better:
May the just rights of letters, as well as of men,
Hereafter be fixt by the tongue and the pen;
Most devoutly I wish they may all have their due,
And that *I* may be never mistaken for *U*.

GRUND'S 'AMERICANS.'

Francis J. Grund, a German, who resided some years in America, and was known among us as the author of several elementary works, chiefly on mathematics and natural philosophy, has recently published in England, a work in which he has embodied his observations on Americans. There are some reasons which will operate to inspire a greater degree of confidence in his work than is generally obtained by the majority of English writers on America. It is addressed to the British public as the impressions of a person free from the prejudices, which Englishmen and Americans insensibly imbibe respecting each other. In its general scope it is favorable to the Americans, and will probably be received with favor on both sides of the Atlantic. The language is not always perfectly accurate, but the faults are such as will almost always be found in the works of a person who endeavors to write in a tongue which has not been familiar to him from childhood. We make a few extracts from his book, in which he speaks of American females.

'The forms of American ladies are generally distinguished by great symmetry and fineness of proportion; but their frames and constitutions seem to be less vigorous than those of the ladies of almost any country in Europe. Their complexions, which, to the south, incline towards the Spanish, are, to the north, remarkably fair and blooming; and while young by far the greater portion of them are decidedly handsome. A marked expression of intelligence and a certain indescribable air of languor—probably the result of climate—lend to their countenances a peculiar charm, to which it would be difficult to find a parallel in Europe. An American lady, in her *teens*, is, perhaps, the most sylph-like creature on earth. Her limbs are exquisitely wrought, her motions light and graceful, and her whole carriage at once easy and dignified.

'An American mother is the nurse, tutor, friend, and counsellor of her children; and the task is in many instances beyond her physical ability. Thus it is customary with many ladies in New England not only to hear their children recite the lessons assigned to them at school, but actually to expound them, and to assist them in the solution of arithmetical and algebraic problems. There are married ladies who apply themselves seriously to the study of the mathematics and the classics, for no other purpose than of forwarding the education of their children; and I have known young men who have entered college with no other instruction, in any of the preparatory departments, than what they received from their mothers.

'The principles of revealed religion and a sound moral philosophy constitute, in America as in England, the foundation of all female instruction; and it is (with the exception of the fashionable circles) a rare case, in either country, to see the mere *agremens de societe* preferred to the more substantial acquirements which qualify ladies for their future stations as wives and mothers. Female dignity is ever more the result of character and principle than of mere outward grace and refinement; and I cannot, in this respect, imagine the women of any country equal to the English and American. In the United States, where there are no classes of society debased in the estimation of the people, and consequently none degraded in their own, this distinction extends even to persons in the humblest walks of life, and is there productive of a species of pride, which Europeans have often mistaken for presumption; but which, in fact, arises from a consciousness of moral worth and unexceptionable behavior, which can lay just claims to our consideration wherever we find it. I have seen nothing among the lower classes in Europe, at all to be compared to it, and it has certainly given me the highest opinion of the general morality of female republicans.

'The society of Boston is distinguished for its unusual number of clever women, and a certain literary taste is, perhaps on this account, diffused even amongst the merchants. The influence of this intellectual refinement is strikingly visible in the manners of the Bostonians, and has created an honorable distinction in favor of their city, which, by the common consent of the Americans, is called the Athens of the United States.

'The ladies of Philadelphia, and the south, generally possess other advantages not less conspicuous and attractive. Theirs is the province of the graces and the fine arts. I can safely affirm that I have heard as good *amateur* concerts in Charleston and Philadelphia as in any part of France or Germany; and I am, certainly, not disposed to undervalue in this respect the claims of my native country. Drawing and painting are also much more cultivated than they are to the north; and foreign languages, especially French and Spanish, are spoken with greater fluency. Their manners are more distinguished for grace and elegance, and their personal attractions are, in England, known by the appellation of "American beauty," But all these accomplishments do not prevent them from discharging their duties as wives and mothers; and it is quite an erroneous notion, though sufficiently prevalent in the northern States, that the ladies of the south are deficient in their domestic arrangements, or negligent in the education of their children. The case is, indeed, quite the reverse. The household of a southern planter is generally quite as well arranged as that of a farmer to the north; though it is infinitely more complicate, on account of the slaves. In cases of sickness, even among the negroes, or any other domestic calamity, the energy and patience of the southern ladies are severely taxed; and as for the instruction of children, the task devolves almost entirely on them; comparatively few good schools or seminaries of learning being at command of the parents, and among these hardly any for the education of daughters.'

TALENT.

What we want in natural abilities may generally and easily be made up in industry; as a dwarf may keep pace with a giant, if he will but move his legs a little faster. 'Mother!' said the Spartan boy, going to battle, 'my sword is too short.' 'Add a step to it,' was the reply.

Black Will selling Nahant.

SALE OF NAHANT.

For the above representation of the selling of Nahant by Duke William, or Black Will, as he was called, for a suit of clothes, we are indebted to Lewis's History of Lynn, a work which shows great industry and accuracy of research, and which we would recommend as a good model for town histories. From the same source we glean the following facts respecting this ancient land speculation. We are not informed whether the clothes with which Mr. Dexter paid for his land were new or second hand; but in either case, we may safely say that, considering the extent of the peninsula, and the sublimity and beauty of its scenery, it would have been an advantageous purchase, provided he had obtained a good title. Our Indian speculator was not satisfied, however, with selling it once. He soon after sold it again to William Witter, together with Sagomer Hill and Swamscoate, for two pestle-stones. How many times and to what individuals he sold it afterwards, does not appear. But we learn from Wood's New England's Prospect, written in 1633, that he at length *gave it away*. 'One Blacke William,' Wood says, 'an Indian Duke, *out of his generosity*, gave this place in generall to this plantation of Saugus, so that no other can appropriate it to himselfe.' One would suppose that after being sold several times, and finally given away, the Indian title to Nahant might be extinguished. We find, however, about twenty years later, in 1652, that Winnepurkitt, the Lynn Sagamore, on the first of April, mortgaged "all that Track, or Neck of land, commonly called Nahant," to Nicholas Davison, of Charlestown, "for twenty pounds sterling dew many yeer."' In 1657, the town having passed a vote respecting the division and planting of Nahant, Mr. Dexter, who claimed it as a purchase from Black William, commenced an action, at the Quarterly Court, on the third of June, against the town for occupying it. Various depositions were given on both sides. The court decided in favor of the defendants, and Mr. Dexter appealed to the Court of Assistants. In 1687, a new claimant arose. Mr. Edward Randolph presented a petition to Governor Andros, for the gift of Nahant; which was opposed by the inhabitants of Lynn. The Governor seemed inclined to grant this request of his secretary, as a reward for his services. Against these claims a memorial, signed by seventy of the inhabitants, was presented to the Court, in which the right of the town was supported. The memorialists say, 'we have honestly *purchased* the said tract of land with our *money* of the original proprietors of the soil, viz. the natives, and *have* firme confirmation thereof under hand and seal, according to law. We have improved said land upwards of fifty years, for soe long since it hath been built upon, and inhabited by tenants, paying their acknowledgements yeare after yeare.' In 1695, the claim of Mr. Dexter was renewed by Mary Daffern, one of his descendants, who was nonsuited. Since that time the right of the town does not appear to have been disputed. We doubt not that in these modern days of speculation, many who never heard of Black Will, have yet followed his example; and many more, who have made great bargains, have found their titles as defective as was Mr. Dexter's. A.

From the New York American.

THE SEMINOLE'S REPLY.

BY LIEUT. G. W. PATTEN.

The attack on Fort Mellon was made, it is supposed, by Philip and his gang. The action must have taken place before the information of the truce could have been received by the Indians who made the attack.'—*Southern paper.*

Blaze ! with your serried columns,
I will not bend the knee !
The shackle ne'er again shall bind
The arm which *now* is free :
I've mail'd it with the thunder
When the tempest mutter'd low :
And where it falls, ye well may dread
The lightning of its blow.

I've scared ye in the city,
I've scalped ye on the plain ;
—Go, count your chosen where they fell
Beehath my leaden rain—,
I scorn your proffer'd treaty,
The pale face I defy ;
Revenge is stamp'd upon my spear,
And '*Blood*' my battle cry.

Some strike for hope of booty,
Some to defend their all—
I battle for the joy I have
To see the white man fall :
I love, among the wounded,
To hear his dying moan,
And catch, while chanting at his side,
The music of his groan.

Ye've trail'd me through the forest,
Ye've track'd me o'er the stream,
And, struggling through the everglade,
Your bristling bayonets gleam :
—But, I stand as should the warrior,
With his rifle and his spear :
The scalp of vengeance still is red,
And warns ye—'*Come not here*

Think ye to find my homestead !
I gave it to the fire :
My tawny household do ye seek ?
I am a childless sire.*
But should ye crave life's nourishment,
Enough I have and good :
I live on hate—'tis all my bread,
Yet light is not my food.

I loathe ye with my bosom
I scorn ye with nine eye—
And I'll hunt ye with my latest breath,
And fight ye till I die.
I ne'er will ask ye quarter,
And I ne'er will be your slave :
But I'll swim the sea of slaughter,
'Till I sink beneath its wave.

From the Southern Rose.

VISITING IN THE CITY.

I live in the country, in a delightful situation, just far enough from town to make it a pleasant drive for invalids, and not too long a walk for persons fond of exercise. I was not much known in the fashionable circle, until it was discovered that our house was in the vicinity of a delightful pond, on which we had a pleasure-boat, and that we had an abundance of fruit and flowers in our garden. It was discovered also that Mrs. Fredland was extremely hospitable, and that she always gave a ready welcome to her visiters, (friends, as they were called,) with plenty of cake and ice cream. It was the invariable practice, when these friends went away, for them to say to me, 'Now, my dear Mrs. Fredland, you perceive that I come and see you without ceremony, and I wish you would return my visits in the same way. Come any time when you have shopping in the city, and dine with me in a social manner, and bring your children. I hope you will not wait for a ceremonious invitation.' I am rather diffident, but still such kind assurances, so often repeated, had an influence, and I promised I would certainly avail myself of their friendly invitations. In the autumn, when our visiters had ceased to come into the country, and I supposed they were all comfortably established for the winter, I thought I would cultivate a sociable disposition, and go into the city and pass a day with some of my summer friends, as they had been so urgent; and as my husband was called into town on business, which would occupy him all day, I accompanied him. Mrs. Brown had been out in the strawberry season, with all her six children and nursery maid, and stayed a week ; and as it was early, I concluded to go first to her house, and leave my riding cloak, and, after making a few calls, return and dine with her. The fire was just kindling in the grate, and every thing looked stiff and cold. Mrs. Brown came down with a bonnet and shawl on—a practice which is sometimes adopted, when a lady wishes to cut a visit short. 'How do you do, my dear Mrs. Fredland ? I am really delighted to see you. I am so sorry I cannot ask you to stay and spend the day socially. But I am just going out to buy my children's winter clothes, and I have two women up stairs waiting for the materials. But you can come in any day, it is such a delightful drive, and we shall be so glad to see you.' As I had my other friends to visit I was not much disturbed, but merely said I would not detain her as she was going out. I had to walk half a mile before I could reach another friend. My cloak began to be very warm, and I was glad to find myself at Mrs. Clark's door. This lady had been very attentive to me all summer, and had been very kind in bringing out her friends and her children. She had urged me to come to town, and bring my children in return, and said they could play in the nursery with her little family, and it would be no trouble. Here I was sure of a cordial welcome. It was about twelve o'clock, and a fine sunny morning ; the exercise of walking, and my heavy cloak, made me very warm. The drawing-room door was thrown open by a stylish looking servant. I sent up my name, and he brought down word that Mrs. Clark was very sorry she could not see me, as she was particularly engaged, and hoped I would take an early opportunity to come in and pass a day socially. As the drawing-room looked as if visiters were expected, I could not resist asking the servant if Mrs. Clark did not see any company that day. 'Yes, ma'am, company to dine, but not morning calls.'

* It will be remembered that many of the Seminoles killed their children ; they being considered an encumbrance to the war.

I began to feel a little disheartened, but recollecting that I had very recently promised positively to spend one day socially with Mrs. Capen, I resolved to direct my steps to her house. I had another half mile to walk, and my cloak became heavier and hotter every step I took. The streets were filled with ladies elegantly arrayed in shawls, and silks, and flowers—improving the fine weather to show their new and fashionable dresses. I had a handsome shawl under my cloak; but, alas! at the present time, it only added to my discomfort, by increasing the heat. I was rejoiced when I reached Mrs. Capen's door. My name was announced, and I was conducted into the drawing-room, which was absolutely filled with elegantly dressed ladies and gentlemen, making morning calls. Mrs. Capen rose and received me in the most cordial manner. She begged me to take a seat by the fire, as she was sure I must be cold; but I was almost melted. A large anthracite coal fire was glowing in the grate; the bright sun was shining through the spacious windows; and the embarrassment I felt at being surrounded with strangers made my face the color of crimson. But there seemed but one vacant seat, and that was near the fire. Mrs. Capen was very affable; she inquired after the children, and after the poultry, and after the pigs; she expatiated on the beauty and convenience of our country residence, and more particularly on its being such a délightful drive in summer. But she did not ask me to take off my cloak, or observe how uncomfortably I was situated. I have remarked that I was very diffident, and I had not courage to pass under the observation of her visiters a second time. I therefore kept my seat, although the perspiration stood in large drops on my face. She chatted with all the company in turn, and then turning suddenly to me, she said—'Mrs. Fredland, when are you coming to spend a "social day" with me? You must not put it off till winter, but improve some fine day like this, and come without ceremony.' I saw that this remark was intended to cut off any hope I might have had of being invited to dine this day. A flush of anger added to the already crimson hue of my face, and at the same time gave me energy enough to retire. When I again found myself in the street, I was perplexed where to go, as my husband could not return home with me until evening. I walked along, almost forgetting, in my discomfort, the names and abodes of my *friends*. On looking across the street, I saw a lady, with whom I *thought* I was very intimate. I knew she saw me, and I tried to catch her eye, but she avoided looking at me, and I saw, by her determined manner, that she had made up her mind not to ask me home to dinner.

The clock had struck two, and found me still in the street; but I had now become desperate, and when I came to Mrs. Jones's house, I told her at once, I had come to dine with her. At this intimation, dismay was depicted on her countenance, for she was one of those persons who would starve six days in the week, for the sake of making a display on the seventh; and this was one of her starving days. She endeavored to conceal her embarrassment, and said she was delighted to see me, but if she had known of my coming, if it were only half an hour, she should have been prepared to see me. I told her not to trouble herself; a comfortable seat, and a piece of bread would be sufficient, for that I was almost worn out. But it was in vain for her to endeavor to appear easy. Her husband came in to dinner. 'What! Mrs. Fredland! My dear, you did not tell me you expected Mrs. Fredland to dine with us?' 'It is an *unexpected pleasure*,' said Mrs. Jones, with a look of agony. 'But you know we are never ceremonious with our friends.' Mrs. Jones had a decent family dinner, but she was so annoyed that I should find her unprepared, she could hardly be polite to her forlorn guest. Mr. Jones was very easy and unconcerned, but he did not show much tact in getting his wife out of her trouble. 'Now,' said Mr. Jones, 'I tell my wife not to worry so much about trifles. I tell her to have enough always, and then she need not fear the king. But she won't get over it for a week, because she did not know you were coming. My wife likes to show off her silver forks, and her French china, to appear as if she used them every day.' 'I am sure, Mr. Jones, I am very happy to see Mrs. Fredland at any time, but it is one of my peculiarities to like to know when I am to have company to dine.' 'But, my dear,' said her husband, 'we cannot expect our friend from the country, to stand on ceremony; and if Mrs. Fredland likes a plain family dinner, (Mrs. F. gave a rueful glance at the table,) it will always give me very great satisfaction to have her drop in upon us just as we are sitting down to dine.' I did not think that Mrs. Jones intended to be uncivil, but she could not recover her equanimity and she forgot how many times she had urged my coming 'without ceremony.' When I returned home to my cheerful family and well-arranged household, I converted my troubles into amusements, by relating the experiences of the day to my husband and children. He was quite delighted with the account, because it confirmed his previous opinion about fashionable acquaintances. One day he came into the parlor, and told me he was going to the city, to pass the day, and that if I would like to go in and see Mrs. Jackson, he did not think there would be any danger of finding her either 'engaged' or 'unprepared.' 'It is the only fashionable house in the city,' said he, 'where I would advise you to go without a particular invitation.'

My reception by Mrs. Jackson was just such as I had anticipated; it was cordial and sincere. She said she was glad that I had come to town, for that the Binghams, whom she had brought out to dine with us last summer, were coming, and she knew they would be very glad to meet me. Here I felt on sure ground, and that I could in no way be an annoyance. Every thing in this establishment was managed on a liberal plan; but if there was a fault, comfort was sometimes sacrificed to elegance. Mr. Jackson's notions about his dinner arrangements were extremely precise. It is not considered *genteel* to have more than twelve persons at a dinner party, and his table would of course admit no more, without crowding—a thing not to be allowed.

When we began to arrange ourselves round the table, he said in a whisper, but which I unfortunately overheard, 'Good heavens! Mrs. Jackson, we have thirteen persons here! How could you make such a mistake?' The consciousness that I was the additional one, sent the blood into my face, and I was covered with an overwhelming crimson blush. Did you ever blush so that you felt it at the crown of your head and at the tips of your fingers? Not a suffusion, which soon passed away, but a deep, glowing, burning sensation, which brings the tears into your eyes? Mrs. Jackson tried to make things easy, but in the moment she had for doing it, she could produce no impression on his disturbed mind. It was impossible for me to bear up under this mortification, particularly as I felt myself crushing the dresses of invited guests. I whispered to Mrs. Jackson, as I passed her, and said I was suddenly indisposed; then I rushed up stairs for my bonnet and shawl, and hurried out of the house. These ladies all gave elegant balls in the winter, for which they sent me cards, enveloped in a whole sheet of the finest letter paper. These invitations frequently came by mail, for which I had to pay double, and sometimes treble postage. My husband would hand them to me with one of his provoking smiles, and say—'We must not object to the postage, on account of the honor of being remembered in the fashionable world.' As it was well known that we did not go into the city to evening parties, that attention was superfluous.

From the New York Mirror.

THE OAK.

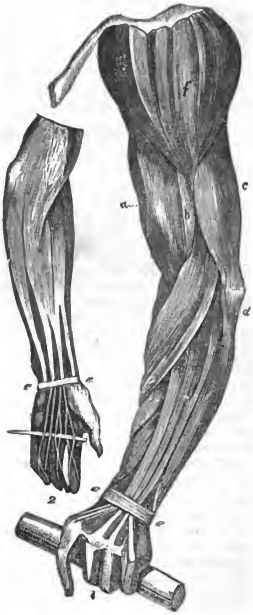
BY G. P. MORRIS.

Woodman, spare that tree!
Touch not a single bough!
In youth it sheltered me,
And I'll protect it now.
'Twas my forefather's hand
That placed it near his cot;
There, woodman, let it stand—
The axe shall harm it not!

That old familiar tree,
Whose glory and renown
Are spread o'er land and sea,
And wouldst thou hack it down?
Woodman, forbear thy stroke!
Cut not its earth-bound ties,
Oh, spare that aged oak,
Now towering to the skies!

When but an idle boy,
I sought its grateful shades!
In all their gushing joy,
Here, too, my sisters played
My mother kissed me here—
My father press'd my hand;
Forgive this foolish tear,
But let that old oak stand!

My heartstrings round thee cling
Close as thy bark, old friend!
Here shall the wild-bird sing,
And still thy branches bend.
Old tree, the storm still brave!
And, woodman, leave the spot;
While I've a hand to save,
Thy axe shall harm it not.



THE MUSCLES OF THE ARM.

The organs which we distinguish by the term *muscles*, constitute a very important part of the human system. They are found just beneath the skin, and are composed of that substance which is commonly known by the name of flesh. They are in constant activity during our waking hours, and of indispensable necessity to man in every movement which he makes. Something has already been said of them on page 103 of our present volume, in giving an account of the Sartorius or Tailor's muscle. We are mainly indebted to Dr. Combe for the following additional facts respecting their character and uses.

Every muscle, or separate bundle of fleshy substance, is composed of innumerable small fibres or threads, each separated from, and at the same time loosely connected with, the others by a sheath of cellular membrane, enveloping it, but which is so thin as not to obscure the color of the fibre, or attract notice unless specially looked for. Each muscle is in its turn separated from the neighboring muscles by thicker layers or sheaths of the same membrane, in some of the cells of which fat is deposited, especially where the interval between the muscles is considerable; and hence the elegantly rounded form of the limbs, which without this fat

would present the rigid, sharp, and prominent outline which we see occasionally in strong persons of a spare habit of body. From the loose texture of the connecting cellular membrane, the muscles enjoy perfect freedom of motion during life, and admit of being easily separated from each other after death, either by the knife, or by simply tearing the cellular tissue.

Muscles, speaking generally, may be divided into three parts, of which the middle fleshy portion, called the *belly*, is the most conspicuous and important. The other two are the opposite ends, commonly called the *origin* and *insertion* of the muscle. The belly is the bulky and fleshy part, by the contraction or shortening of the fibres of which the two ends are brought nearer to each other, while the belly itself swells out in a lateral direction. When we attempt to lift a heavy weight in the hand, or to overcome any resistance, the muscles which bend the arm may be seen and felt to start out, rigid and well defined in their whole extent, while their extremities tend powerfully to approach each other, and of course to carry along with them the bones to which they are attached. In consequence of this tendency, if the weight be unexpectedly knocked out of the hand before we have time to obviate the result, the muscles, having then no resistance to overcome, will contract violently, and throw the hand up with a sudden jerk. Voluntary motion is, in fact, effected by the contraction of muscles acting upon and changing the relative positions of the bones or solid support of the system, and therefore almost all muscles are attached to one bone by their *origin*, and to another by their *insertion;* the former being merely the fixed extremity, towards which the opposite and more moveable end, called the *insertion*, is carried by the shortening of the intervening belly of the muscle.

In man, and in most of the animals with which we are familiar, the muscles are of a red color. This, however, depends entirely on the blood which they contain; for so far is the color from being essential to their constitution, that it may be destroyed by washing out the blood which produces it, the muscular substance remaining in other respects unchanged. Hence the color of the muscles varies with that of the blood,—is dark where it is dark, pale where it is pale, and white where it is white. The true characteristic of muscular fibre is *contractility*, or *the power of shortening its substance on the application of stimuli, and again relaxing when the stimulus is withdrawn.*

The direction in which the fleshy fibres run determines the direction of the motion effected by their contraction. In some muscles the fibres are nearly parallel, and act consequently in a straight line. In others they run obliquely, producing a corresponding obliquity of motion; while in others they are disposed like feathers in relation to a quill, and are, therefore, styled penniform. A few are circularly disposed round openings, and contract towards a common centre, like the mouth of a purse closed by its strings. When the direction varies, it is always to effect a particular kind of action. Remarkable contrivances appear for this end: one muscle of the lower jaw, for example, is divided into two distinct fleshy bellies by an intermediate thin strong tendon, which passes through and plays in a pulley adapted for its reception; its two portions being by this means enabled to operate with full effect almost at right angles to each other. A similar arrangement is found in the *trochlearis* or pulley-muscle of the eyeball; and modifications of a different kind occur in other muscles, as in those of the fingers and toes, wherever a particular object is to be accomplished.

The chief purpose of the muscles is obviously to enable us to carry into effect the various resolutions and designs, or volitions, as they are termed by philosophers, which have been formed by the mind. But while fulfilling this grand object, their active exercise is at the same time highly conducive to the well-being of many other important functions. By muscular contraction, the blood is gently assisted in its course through the smaller vessels, and more distant parts of the body, and its undue accumulation in the internal organs is prevented. The important processes of digestion, respiration, secretion, absorption, and nutrition are promoted, and the health of the whole body immediately influenced. The mind itself is exhilarated or depressed by the proper or improper use of muscular exercise; and it thus becomes a point of no slight importance to establish general principles by which that exercise may be regulated.

At the head of this article we have given a cut of the muscles of the arm. In figure 1, *a* represents the *biceps*, which is situated at the front and inner part of the arm; it is thick at its middle portion, and thin at its extremities, the superior of which is divided into two portions; *b*, the *brachiæus internus*, arises from the middle of the *os humeri*, and is inserted into the *ulna*. Both these muscles are used to bend the fore-arm. The *triceps extensor cubiti*, represented by *c*, occupies all the posterior part of the arm. It is very thick and fleshy, and is divided at the upper part into three portions, from whence it derives its name. It is a powerful extensor of the fore-arm. The long portion has the power of carrying the arm backwards; *d*, the *anconæus*, a small triangular muscle, is situated at the outer side of the elbow. It assists the last muscle. By *f* is represented the *deltoid muscle;* the muscle at the shoulder by which the arm is raised.

In figures 1 and 2, *e*, *e*, indicate the *annular ligament* of the wrist, under which pass the tendons of the muscles of the fingers. A.

Female Heroism.—Madame Lefort during the French Revolution, like the illustrious Madame Lavallette of our time, bought a permission to visit her husband, who was imprisoned as a conspirator. It was discovered the following morning, that, aided by a change of apparel, and occupying the prison in his stead, she had effected his escape. When arraigned at the tribunal, the representative addressed her in a menacing tone, 'Wretch!' said he, 'what have you done?' 'My duty,' replied she, 'do yours.'

ELIPHALET NOTT, D. D. L.L. D

ABRIDGED FROM THE PARTHENON.

President Nott was born in June, A. D. 1773, in Ashford, Connecticut. He was deprived, at an early age, of both his parents; not, however, till his mind had received a powerful impulse from the instructions of a gifted and pious mother. Under her tuition, with the aid of that nursery of talent, the common school, his mind first imbibed the love of letters and the taste for independent and original inquiry, which have distinguished his subsequent life. The hope of receiving a liberal education seemed to be precluded by the straitened circumstances of the family; and had it not been for a desire of knowledge, too strong to be repressed, it is probable that the subject of this sketch would have spent his days on the farm or in the workshop. It is said that this thirst for improvement was suffered to prey upon him in secret, till he had reached the age of nine or ten, when upon perceiving one day a neighboring physician ride past the field where he was at work, his feelings were too powerfully excited to be longer restrained. He dropped the hoe with which he was laboring, resolved that his life as a farmer should end there —and going to the residence of the physician, requested to be received as a student. This gentleman, with a kindness and a consideration which did him honor, expressed no surprise at the singular application; but, after explaining to the youthful aspirant his need of more knowledge in order to commence profitably the study of medicine, advised him to return to his friends, and, if he could procure their consent, to devote himself to its acquisition. Soon after this incident, which seems to have given a new complexion to all his views, he was placed with his elder brother, the Rev. Samuel Nott, who for more than half a century has been the respected and exemplary pastor of the Congregational church in Franklin, Conn. While with him, young Nott acquired a knowledge of the elements of Latin and Greek, made some progress in the mathematics, and was finally employed as a teacher of the district schools in the vicinity. It was, we believe, when he was about sixteen or seventeen years old, that he took charge of a school in Plainfield, where the Rev. Mr. Benedict then resided; and from this excellent man, one of the most accomplished of the scholars that then adorned the ranks of the Connecticut clergy, he received the most friendly and efficient aid. To his counsel and encouragement, it is understood, that Dr. Nott has always attributed much of the rapid improvement, which, at this period of his life, he was enabled to make, and which in his twentieth year was rewarded by the first degree in the Arts; obtained at Brown University, after a residence of only a few months.

Having thus obtained collegiate honors, Mr. Nott commenced his preparation for the ministry, being employed at the same time in teaching. In 1795, when about twenty-two years of age, he was licensed to preach, and, having soon after married Miss Benedict, a daughter of his friend and benefactor, he removed to the county of Otsego, in New York. After spending a year in missionary labors, he finally settled himself as pastor and principal of the Academy, in Cherry valley, then almost a wilderness. The *eclat*, which this Academy soon after acquired under his auspices, and the number of students that crowded to it for admission, evince the ability which even then he possessed for the instruction of youth. In his clerical labors he was no less successful; and it soon became apparent that his zeal and powers called for a wider theatre. Such a theatre presented itself at Albany, where, in 1798, he was invited to take charge of the Presbyterian church. Here, for six years, he devoted himself, with untiring assiduity, and with an ardor which nothing could repress, to the spiritual welfare of his people, and to the promotion of the great interests connected with literature and the public morals. His situation brought him into contact with the most distinguished men of the State, who, being resident at Albany as officers of the government, or called thither by professional and legislative engagements, were glad to cultivate his society and enjoy his ministrations. It is believed that the six years, spent by President Nott at Albany, were among the most useful and important of his life. Many living witnesses attest the fidelity with which he discharged his duties, and the unprecedented rapidity with which he rose in power and popularity as a preacher. The impressions, which were left by his argument in behalf of the truth of Christianity, on the minds of some very eminent men, who had hitherto doubted, are said to have been deep and permanent. It is said that to his counsels may be attributed some of the important measures which characterized the legislation of the State during that period.

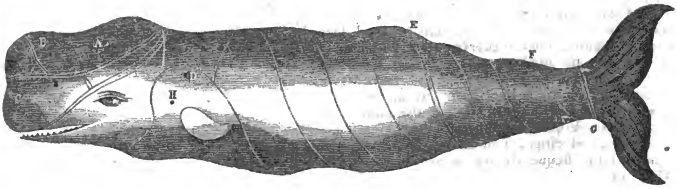
In the spring of 1805, not long after the delivery of his celebrated discourse on the death of Hamilton, and but very few months after the death of an

inestimable wife, he was invited to the Presidency of Union College. The infirm state of his health, as well as the prospects of usefulness which the invitation seemed to open, induced him to yield to the wishes of the public; and he accordingly requested a dismission from his people. Having received it, coupled however with the most affecting expressions of regret, he came to the place, where he found the college with but fourteen students, its funds exhausted, its buildings unfinished, and all its operations embarrassed by debt and despondence. His first step was to obtain from the legislature a grant of eighty thousand dollars, with which the edifice in the city, now called the Old College, was completed, professorships were established, and a library and apparatus procured. It was during his application for this grant, that he matured the plan, and, with the aid of some influential friends, procured the passage of a law establishing the common school fund of this State—a service to his country, which, if it stood alone, would entitle him to most grateful remembrance. It is impossible, within the limits assigned to this article, to trace the various effects, which, during the twenty-eight years that he has spent at the head of this institution, he has made in the cause of education. If posterity shall ever inquire after his monument, they may be pointed to the lands, the edifices, the professorships, and the influence, which are now the property of Union College; and which, it is believed, may all be traced to his individual agency. It is not too much to say, that he has been to this institution, at once, its financier, its president, and, of all its pecuniary benefactors, excepting the State, incomparably the most liberal. Instead of fourteen students, it now numbers, as it has for several years, more than two hundred; graduates annually classes as large as any graduated by any college in our country; and has funds and property, which entitle it to a rank beside the most venerable and honored. What religious impressions Dr. Nott has left on the minds of his pupils, what impulse he has given to their intellectual pursuits, what habits of mental discipline he has imparted, and what lessons he has furnished respecting the emergencies of practical life, may be learned from the fifteen hundred individuals, who during his presidency have enjoyed his paternal care. They need no sketches from us to remind them of the charm with which he can invest the lecture-room, of the sacredness which he throws over the solemnities of the chapel, of the parental kindness with which he admonishes the wayward and bears with the perverse, the facility with which he maintains a discipline, more rigid, it is believed, than prevails in any other college of our country, the intuitive ease with which he penetrates the character and traces the aberrations of his pupils, and the upward aim which he gives to the aspirations of the ardent and youthful mind. All these are traits, which have left on the minds of his students an indelible impression, and which are now reflected from the labors of many distinguished men in our country, who are proud to refer to him as their model, and to remember him as, under God, their greatest intellectual benefactor.

President Nott has labored also in another and very different department. Nearly twenty years since, he was induced to place the Russian stove in the buildings, then erected for the accommodation of students, and when, at a subsequent period, it was found not to answer the purpose intended, it became necessary, in the absence of fire-places, to provide a substitute. This, we believe, was the real origin of the experiments on heat, which, with his characteristic perseverance, and at great expense, Dr. Nott has been prosecuting for many years. The result of these is to be found, not merely in the stoves with which he has favored the public, nor in the new forms which he has given to furnaces, steam generators, &c. &c. but yet more in the developement of *principles respecting the economy of heat*, as new as they are important —principles, which are destined (if we may trust to the judgment of scientific men,) to work most extensive and radical changes in the prevalent modes of generating and applying caloric.

Of the characteristic powers and qualities of Dr. Nott's mind, the most remarkable are candor, discrimination, and versatility, joined with a power of continuous application, greater than we recollect to have observed in any other individual. To whatever subject he applies himself, he seems to seize, with intuitive ease, its great and leading principles. No prejudice is allowed to shut out the evidence of truth; and to the uniform candor and generosity with which he accustoms himself to weigh opinions opposed to his own, may be attributed much of the sway which he acquires over surrounding minds. His aims are always noble. It is not with him as with some men miscalled great, whose lives are a tissue of sordid ends, pursued by sordid means. Whatever enterprise he thinks calculated to enlighten or benefit mankind he espouses; and, having espoused it, he thenceforth becomes its active, unblenching friend. Hence, though a Presbyterian, he freely lends his aid to the institutions of other denominations of Christians. Though connected, by ties of peculiar interest, with Union College, he often renders essential service to other seminaries, towards procuring their charters, sustaining their applications for endowments, and allaying the spirit of intolerance and rivalry. And the returns, which he now receives for the time and money so freely expended, in his researches respecting heat, are not hoarded up for individual emolument, but are bestowed with the greatest liberality on objects of charity and on new investigations in science and the arts.

We may conclude then by saying if we consider the impression which must have been produced by his preaching, if to this we add the impulse, which, through the educated minds that he has sent forth to enlighten and guide public opinion, he has given to the movements of society—if, in fine, we estimate the increase of individual and social happiness, which must result from the introduction of his doctrines respecting the evolution and management of heat, we shall see ample reason to conclude, that though the grave were now closed upon him, his name would still occupy a most commanding place among the ornaments and benefactors of his country.



The Spermaceti Whale.

THE SPERM WHALE.

The above figure of a sperm whale we copy from 'Macy's History of Nantucket,' where we find it copied from 'Captain James Colnett's Voyage to the South Atlantic and Pacific Ocean.' We give from the same work the following explanation of the picture.

A. Part of the head containing liquid oil, or head matter. B. The spout-hole. A. B. The part of the head of a large whale which is too bulky and ponderous to be hoisted on board, it is suspended on tackles, and, the front part being cut off, the oil is bailed out with buckets: but the head of a small whale is divided at the double line below C. C. and hoisted on deck. — — Where the tackles are fastened. D. Where the tackles are first hooked, which is called raising a piece; being thus steadied in the tackles, the head is divided at the lowest double line. E. A large hump of fat. F. A smaller hump of fat. When the whale is flinched, or peeled to E, it will no longer cant or turn in the tackles, it is therefore cut through at the first double line and also at G, the tail being of no value. H. The ear, which is remarkably small, as is also the eye, from which a hollow or concave line runs to the fore part of the head. The eyes being prominent, the whale is enabled to pursue his prey in a direct line, and by inclining his head a little to the right or left, he can see his enemy astern. There is one row of teeth, in the lower jaw, and sockets in the upper, to receive them. The number of teeth depends on the age of the animal. When the sperm whale spouts, he throws the water forward and not upward, like other whales, except when he is enraged.

The tail is horizontal; with it he does much mischief in defending himself. The odorous substance called ambergris, appears to be a concretion formed in the intestines of these whales, particularly when they are subjects of disease. It is generally discovered by probing the intestines with a long pole, when the fish is cut in two at E.

We have already given, on page sixth of our second volume, some account of the sperm whale. From Smellie, and the above-mentioned History of Nantucket, which contains many interesting facts respecting whales and the whale fishery, we gather the following additional particulars.

The spermaceti whales are without the whalebone, and are remarkable for the disproportionate size of their heads. This size is owing to the existence of certain cartilaginous cavities upon their upper part, in which is contained the peculiar substance known by the name of spermaceti. These cavities are entirely distinct from that containing the brain, which is very small. They have little fat in other parts of their bodies, and it is on account of the spermaceti only that they are a valuable object of fishery. They vary much in size. The *cows* and *calves* are generally found in shoals. Ten, twenty, and sometimes hundreds, constitute a school; and, when discovered, some of them are constantly on the surface of the water, spouting, jumping, playing, &c. The cows make from eight to forty barrels of oil. The male grows much larger; and what is termed a large whale will yield from sixty to a hundred barrels. It is thought by some, that the males, or at least the most of them, about the third year of their age leave the cows and calves and gang together: and it is not uncommon to see a school of forty barrel whales, and so on to sixties. Sometimes single whales are seen of a large size. To what depth a sperm whale descends in search of food, (which is always squid,) no person, whatever his experience may have been, can tell. One thing is certain, that the larger the whale, the longer it stops under water.

The different species of whales nurse their young as cows do their calves. The age, at which the young are weaned, is probably twelve months. Whales have no means of carrying their young, to preserve them from danger. When attacked by a school of killers, a species of whale not larger than a sperm whale two months old, they stop entirely, and lay like logs on the water; then the calves collect between the cows and run their heads as far out of water as they can. When whales are frightened, they go as fast as their calves can swim, and no faster. Cows and calves associate very freely together.

The sagacity of sperm whales is in no way so remarkably manifested, as in the instantaneous knowledge they possess when one of their number is struck and wounded, at a distance of two, three and even four miles apart. Whether they receive this knowledge by sight or sound, we shall not pretend to say. When a whale is struck, those around, and feeding undisturbed, sometimes instantly, as with one accord, make the best of their way towards the wounded whale, which gives the boats that are disengaged a fine opportunity to fasten. At other times, they will collect in a body, and go in a contrary direction, as fast as possible, to all appearance much frightened. Sperm whales migrate far and wide. Ships cruise on the coasts of Peru and Chili from ten to one hundred leagues

from land. It has often been observed, that both the in and off-shore vessels are sometimes doing nothing, and at other times are all engaged. Where the whales are in the *interim*, none can tell.

Instances can be cited of whales having been struck, and making their escape in the Atlantic ocean, being afterwards taken in the Pacific, with the heads of harpoons in them bearing the marks of ships known to have been cruising to the east of Cape Horn. Whales are not easily driven away from their feeding-ground by ships. Ships passing the Cape of Good Hope, Van Dieman's Land, and Cape Horn, frequently see whales making their passages. A.

From Jones's Excursions to Cairo.

VISIT TO THE PYRAMIDS.

Earliest dawn on the 25th found us up, and our court filled with animals of all shapes and sizes, from the towering dromedary to the wee bit of a donkey; and each one was allowed to choose his mode of travelling for himself. In the end, I believe, the largest of us were found on the donkeys, and the smallest perched on the backs of dromedaries; and as I was among the former, I amused myself along the streets with watching my more ambitious companions, in danger of being caught up, as was Absalom, if not by their hair at least by the clothes, and left dangling at the end of the beams, that every where project from the sides of a Turkish bazaar. The gait of the dromedary is also extremely uncomfortable; the rider, unless accustomed to it, being tossed from side to side at each of the long steps of the animal. I believe when we reached the Pyramids every one of our ambitious comrades selected some more humble animal for the rest of the journey.

And here I may be allowed to give a tribute of just praise to the Egyptian donkeys. They are extremely small, but beautifully formed, and are of a mouse color, with a streak of black running along the back, and intersected by another crossing it at right angels, and passing down the fore shoulders. These black lines are believed, by the superstitious of the Eastern countries, to be copied from the cross, and to be here in consequence of our Savior's having selected this animal for his entry into Jerusalem. The Egyptian donkey is very gentle and tractable; and, for riding, is the most agreeable of the donkey tribe that I have ever seen.

Thanks to the tact of Mr. Gliddon, and of our caterer, Lieut. S. the preparations for our excursion were admirably made, and we got off without confusion; although, as we had provisions for two days, tents, &c. our train consisted of seventy animals; and our company, amounting to about as many persons, comprised a singular variety of nations and languages. Preceded by torches, we marshalled ourselves in the dark and narrow streets, and the word being given, at length we put ourselves in motion.

'Get out of my way, there,' cries an aspirant after high places to one of more humble elevation; and the way being cleared, on sweeps the dromedary at a rapid pace, the saucy occupant of his back now beginning to bob up and down, and trying in vain to find something by which he may steady himself; and in his efforts to check his beast, only making it go the faster. 'Which is the way?' cry at once half a dozen travellers, lost in the mazes of the streets, and each, advising a different course, only heightening the embarrassment; till at last they yield the reins to their more sensible mules, which in a brief space succeed in extricating them. 'Johnny Turk, here, lengthen this stirrup for me,' says another; when the Arab groom, understanding only the gesture, and his eyes already offended by its unwonted and ungraceful length, draws it up still higher, till he brings the rider in the graceful attitude of the Turkish horseman, with the knees up almost to the chin. 'What an unsightly attitude,' the Arab murmurs to himself, 'with the legs sprawling about, when he can bring them close up to the breast.' To our great satisfaction we emerged at length from the narrow streets, and had the pleasure of riding on without incessant danger of scaling our ancles and knees.

Arriving at Old Cairo, we were ferried across the river, passing in our course the head of the island already noticed, and by the edifice with the famous Nilometer. Opposite to Old Cairo is the village of Ghizeh, from which the largest Pyramids, which we were now about to visit, take their distinctive name; Ghizeh is celebrated also for its ovens for hatching chickens.

Passing this, we had now the Pyramids in full view before us, nine miles distant, but separated from us only by the level plain. The morning air was cool and pleasant, our animals travelled well, and we left the ground rapidly behind us. But as we journeyed on, disappointment took possession of every one of us. The fabrics of which we had been reading with wonder and admiration from our childhood, were before us; there were the Pyramids; but how diminutive!

Still, as we approached them, we watched to see whether they would not at last appear in that magnitude and grandeur which we had always connected with them; but it was all in vain. Each one indulged in some epithet of dissatisfaction, and even of contempt; and thus we reached the bottom of the eminence on which they stand. But when we had wound up its sides, and reached the piece of table land on which they are erected; when we checked our animals at the foot of the first of them, the Pyramid of Cheops, and looked up; there, they were again the Pyramids, and grander far than our fancy had ever pictured them. The effect, indeed, is almost overpowering. Their simplicity contributes to this as well as their vastness. There is nothing to break up and confuse the attention. The mind, without effort, embraces the whole object; one single idea occupies the attention; a single impression is made, but it is astounding; and we feel all the sublimity of the object, because by this single impression so great an effect is produced. We cast our eyes upward; we look again at ourselves, and we wonder that we are so diminutive; we who just now were passing sentence of condemnation, and looking with contempt on this

mighty work! We sink into nothingness beside it, and wish to dismount and get yet lower, and from an humbler place yield it the deep homage that the mind willingly pays to greatness. 'This is great, this is very grand,' was the language from the lips of many, and I believe from the hearts of all, as we passed along the base of these stupendous monuments.

There are three of them at this place, called, after their reputed founders, the Pyramids of Cheops, Cephrenes, and Mycerinus. They stand on a natural platform, or piece of table land, one hundred and fifty feet in height, projected from the adjoining range of mountains. That of Cheops is the largest, and has been repeatedly measured; but on account of the rubbish that has accumulated along the sides, it is difficult to do this correctly; and there is great discrepancy in the results.

	English feet.	feet.
Herodotus makes its height	800, and length of each side	800
Strabo	625,	600
Le Brun	616,	704
Thévenot	520,	612
Davison	461,	746
French Sçavans	470,	704

As the angles are exposed to view quite down to the foundation, there is less difficulty in ascertaining the number of layers, which is said to be two hundred and six; each layer being of smaller dimensions than the next lower. A series of steps is thus formed, each about thirty inches in height and twenty in width. The Pyramid of Cheops is truncated, terminating above in a platform of about twenty feet square; that of Cephrenes is continued up to a sharp point, and is coated from this about one fifth of the way down, with triangular blocks, so as to present, at this part, a perfectly smooth surface. It is supposed that the whole of this Pyramid was originally coated in this manner; and that it was covered with hieroglyphics. I ascended to the smooth portion of its surface, but could discover no traces of such inscriptions. The three Pyramids stand nearly in a straight line, running north and south, and face exactly the four cardinal points. Belzoni measured that of Cephrenes, and found it to be six hundred and eighty-four feet on each side at the base, and four hundred and fifty-six in height; that of Mycerinus is much smaller, and has been mutilated so as to be rather an unsightly object. They are composed chiefly of secondary limestone taken from the adjoining mountains. As the angles of the Pyramids have suffered from the weather, and probably also from human violence, and have thus been broken into smaller steps, we were able, without much difficulty, to ascend to the summit of that of Cheops. The natives, many of whom had been attracted from a neighboring village by the sight of strangers, when seen from this elevation, appeared dwindled into the nearest pigmies. A visit into the interior was a matter of greater difficulty. I had been over to examine the Pyramid of Cephrenes, and on returning to that of Cheops, found that the party had entered, carrying with them all the candles; so that I had to choose between remaining without or groping my way along in the dark. Taking a couple of Arabs, who professed to know the way, I clambered over a quantity of rubbish, rolled down from the upper portions of the Pyramid, and reaching to the entrance. This is on the northern side, about thirty feet above the base, and at an equal distance from each of the angles. We here entered a square passage, three and a half feet on each side, and inclining at an angle of twenty-six degrees, which, it is worthy of remark, is the inclination of the entrance passage in each of the Pyramids yet explored. This passage was lined quite around with polished granite; and the descent would have been dangerous, but for rude steps or holes for the feet, cut in the lower flags in more modern times. This passage is about one hundred feet in length; and by the time we reached its extremity, daylight had quite deserted us. I found myself now in a place where I could stand upright; and after stumbling over some rocks, was brought to a stand by a rough wall, where the hand of violence had been at work, probably endeavoring to force a passage into some of the chambers. Here an Arab got before to drag, and another behind to push me, and by their good help I soon found myself swinging in mid air, in the blackness of darkness; but presently reached a ledge about eighteen inches wide, regularly formed, and ascending at the angle already noticed. Following this up, I at length began to hear voices, and soon after, to my great satisfaction, found myself in a lighted chamber, and once more among my companions. This was what is called the King's chamber; a name given to it on account of a sarcophagus of red granite, seven feet six inches in length, and of proportionate width and depth, highly polished, but entirely plain. This apartment is thirty-seven feet long, seventeen wide, and about twenty in height; and is cased in every part with polished Egyptian granite.

Leaving this chamber, and returning part of the way, I found that the ledge on which I had ascended, had at its side a passage to another apartment lower down than the King's chamber; this is seventeen feet long, fourteen wide, and twelve feet in height; and is also cased with polished granite. There are other chambers in this Pyramid, but of irregular shape; and it is uncertain whether they were part of the original design, or are accidental; a pit, descending, with several offsets, to a depth of one hundred and fifty-five feet, or to a level with the Nile, with which it probably had a communication, has also been explored. It is probable that there are several other passages not yet discovered, and among them one by which there was a subterranean entrance to the Pyramid, a passage, apparently of this character, having been recently discovered in the Pyramid of Cephrenes.

For what we know of the interior of this latter Pyramid, which stands within one hundred yards of that of Cheops, we are indebted to the most enterprising of all modern travellers, the patient and yet acute Belzoni. Herodotus had declared that there were no chambers in this Pyramid; and, except a few lazy efforts of the Sçavans of the French invading army, no attempt had been made

to ascertain whether this writer was correct or not. The ambition of Belzoni having been fired by his success amid the monuments of Thebes, he determined to make an effort upon this Pyramid; and he began first by attempting to force a passage into the northern side. This still remains as when he abandoned it; and on examining it, I was struck with astonishment at the perseverance and determined resolution of the operator. He has cut a large passage (in many places nine or ten feet square) for a distance of one hundred feet, into the heart of the Pyramid; the whole being through a solid mass of stones, often of prodigious size. The danger, as well as the expense of this mode of operating, compelled him at length to abandon it; but his resolution was not to be overcome. He examined again the Pyramid of Cheops, and, after careful admeasurements, discovering that in this of Cephrenes, at a point corresponding exactly with the entrance into the former, the surface of the Pyramid was sunk a little, he commenced here anew, the native workmen looking on in wonder, and calling him *magnoon*, or fool. Having removed a quantity of rubbish and cut through the outer rocks, he at length found his toils rewarded; slabs of granite, like those lining the entrance into the other Pyramid, began to appear; and to his joy he found at length a similar passage open here before him. It is four feet in height, and three feet six inches in width. Having removed the rubbish which had fallen into it, he reached, at the bottom, a porteullis of stone, 'which,' he says, 'stared me in the face, and said *ne plus ultra;* putting an end to all my projects.' With great labor this was raised at length sufficiently to allow him to creep under; and 'after thirty days,' he adds, 'I had the pleasure of finding myself in the way to the central chamber of one of the two great Pyramids of Egypt, which have long been the admiration of beholders.' A passage cut out of the solid rock, brought him from this to the entrance of a large chamber.

'I walked,' he says, 'slowly two or three paces, and then stood still to contemplate the place where I was. Whatever it might be, I certainly considered myself in the centre of that Pyramid, which, from time immemorial, had been the subject of obscure conjectures of many hundred travellers, both ancient and modern. My torch, formed of a few wax candles, gave but a glimmering light; I could, however, clearly distinguish the principal objects. I naturally turned my eyes to the west end of the chamber, looking for the sarcophagus, which I strongly expected to see in the same situation as that in the first Pyramid; but I was disappointed when I saw nothing there. The chamber has a pointed or sloping ceiling, and many of the stones had been removed from their places, evidently by some one in search of treasure. On my advancing towards the west end, I was agreeably surprised to find that there was a sarcophagus buried on a level with the floor.' A closer examination led him to the discovery of bones in this sarcophagus, which, on being sent to London, were pronounced to be those of a bull, or of that species of animal; a fact which strengthens the opinion that the Pyramids were erected by the Egyptians, not for the burial of their kings, but for religious purposes. The enterprising traveller, however, found that he was not the first that had penetrated these mysterious recesses. The covering of the sarcophagus had been partly removed; and on going further, he discovered both Roman and Arabic inscriptions; the latter stating that 'the Master Mohammed Achmed had opened them.' This chamber is hewn out of the solid rock, and is forty-six by sixteen feet at the sides, and twenty-three feet six inches in height. He discovered some other chambers, and numerous passages, together with a well, as in the other Pyramid.

Adjoining the Pyramid of Cephrenes on the south are the ruins of a large enclosure, formed of huge stones; while on the north and west are scattered a great number of tombs, of heavy and solemn architecture, forming entire streets. In these the stones are also large; they had flat roofs, above which rose a parapet with heavy mouldings; some are in good preservation, but most have suffered greatly from the hand of time, or, more probably, of human violence; the roofs having fallen in, and the sands of the desert having entered and filled them up. Their inner walls are covered with stucco, on which are painted numerous figures of men and beasts, in procession or engaged in religious sacrifices, or in agriculture. We opened a passage into one of them, and were glad to find it a refuge from the fierce sun, which now seemed to be shedding fire upon us, and upon the glowing sands all around. The tomb consisted of three chambers—two in good preservation, and one uncovered; all of them ornamented in the manner just described; it was large enough for all our party, except the Arabs, who seemed to care little for the sun. Our hampers being dragged in, we enjoyed here a comfortable meal; after which, retiring to the outer chamber and making a pillow of the sand, I gazed on the dim figures traced on the wall, and indulged in antiquarian reveries.

PRESBYTERIAN CHURCH IN ROCHESTER.

The First Presbyterian Church in Rochester was organized August 22d, 1815, with sixteen members, by a Committee of the Presbytery of Geneva, under the care of which it was at that time received. It was the first religious society organized in the place, and was the only congregation in at least four hundred square miles. The second meeting of its session was held on Brighton Ridge, and no church meeting was legally called, unless notice had been sent to the settlements on the ridge in Gates, and in the east part of Brighton. At that time the population was only 331. On the 17th of January, 1816, the Rev. Comfort Williams, a native of Wethersfield, Connecticut, who had graduated at Yale College, pursued his theological studies at Andover, and been settled at Ogsdensburgh, was installed bishop and pastor of the church, by the Presbytery of Geneva. The Presbytery of Rochester was organized April 6th, 1819, and the church transferred to its care. Mr. Williams was dismissed, at his own request, in June, 1821, and was succeeded by the Rev. Jo-

seph Pinney, a native of the north of Ireland, and who had been educated in that country and at Glasgow. He was installed as bishop and pastor of the church April 3d, 1822. He resigned his pastoral charge, April 16th, 1833, and was soon after called to the First Congregational Church in Northampton, Massachusetts, and, in 1835, from that church to his present station, the Presidency of Hamilton College. Four members of the church have gone out as missionaries, two to the Sandwich Islands, and two to Southern India. The Rev. Tryon Edwards, a native of Hartford, Connecticut, and a graduate of Yale College, after having pursued his theological studies at the seminary in Princeton, New Jersey, was ordained and installed as bishop and pastor of the church by the Presbytery of Rochester, July 22d, 1834.

For these interesting facts we are indebted to some unknown friend, who has furnished us with the able, learned, and eloquent Thanksgiving Discourse of Rev. Mr. Edwards—a discourse very unlike the ephemeral discourses, of which so many are now printed; for it will continue to be of permanent value to the politician, historian, and christian.

Having made these statements respecting the church which worships in the temple of which we here give a representation, we proceed to quote Mr. Edwards's remarks respecting the city in which it is built.

'Forty-eight years ago, the ground on which Rochester now stands, was only known as a part of the hunting ground of the remnant of the "Six Nations." The person who first left Massachusetts to explore it, took public leave of his family, his neighbors, and the minister of the parish, who had assembled, *all in tears*, to bid him, as it were, a final adieu! At that time, a tract of twenty-four miles in length, by twelve in breadth, was *given* by the Indians *for a mill yard!* So vast, as will soon be seen, has been the increase of the value of landed property! It was not until 1821, that part of this territory was organized as Monroe county.

'Rochester, now the capital of this county, twenty-five years since had no existence. The first log house, on the east side of the river, was erected in 1808; the first on the west side in 1811; and the first white person born in the village, (in 1810,) is now a member of this congregation. At this time the mail was carried eastward, once a week, on horseback, and part of the time by a woman! In 1812, part of the ground on which the city now stands, was first laid out in lots, and offered for sale. In this year, also, a post-office was established in the village, and its first quarterly income was $3 42 cents! In 1814, the settlement was threatened with an attack from the British fleet, which came to anchor at the mouth of the river; and all the male inhabitants capable of bearing arms, (being only thirty-three!) turned out with the militia of the adjoining towns, to prevent the landing of the enemy, leaving but two men to take care of the women and children.

'Twenty-one years have since passed away, and now we behold Rochester the fourth, if not the third city in the empire State. Its limits include about 4200 square acres; its population, according to the census just taken, is over 17,000; and the estimated value of its property is $17,500,000. The annual income of its post-office, which is a good test both of its literary taste and commercial prosperity, is over $14,000. Its custom-house income is $60,000 per annum; and its canal revenue $192,000—larger than that of any place west of the Hudson. Its boat-yards (which on the enlargement of the canal will become ship-yards,) supply not only our own canals, but those also of other States. Its interest in the "forwarding-lines" is about $320,000—more than is owned in all the other cities of the State, so that it exerts a controlling influence in the navigation of the canal. Many of our hotels, some of which are of the largest class, would do credit to any city whatever. We have two daily, five weekly, one semi-monthly, and two monthly papers; an athenæum, with a library and reading room attached to it; a library association; an academy of sacred music, with a professor and 150 pupils; twelve agencies for insurance companies; eleven miles of broad and well flagged side-walks; three banks, with an aggregate capital of $950,000, and allowed to issue between two and three millions; and one Savings bank, the deposits in which amount to one hundred thousand dollars. The known annual sales of merchandise, of various kinds, amount to more than $5,500,000. In addition to nine lines of daily stages, there is constant communication with the city, by rail-roads, and steam and canal boats. Our water power is of immense magnitude and value. The two great falls and several rapids of the river within the city limits, make an aggregate descent of two hundred and sixty feet, or about one hundred feet more than the perpendicular descent of Niagara! The value of this water power, as computed by the standard of steam power

in England, is almost incredible, exceeding ten million dollars for its mere annual use! This is the moving power to most of the great manufactories, and to our mills. These immense establishments—our flour mills—sustained by the enterprise and skill of our millers, have already rendered Rochester celebrated as the greatest flour manufactory in the world.* They are twenty in number, having ninety-four runs of stones, and are capable of manufacturing 25,000 bushels of wheat daily. They actually do make on an average from 500,000 to 600,000 barrels of flour per year, worth, at present prices, nearly six million dollars.†

'We have two female seminaries, with eleven teachers and assistants, and about 180 pupils; three charity schools, sustained by our ladies, who are thus educating 250 orphan or destitute children; one high school for both sexes, the largest in the State, with a principal, eleven assistants, and during the year 654 pupils; eighteen private schools, including some of those just mentioned; fourteen common school districts, in the schools of which (including the high school and the African school,) 2,782 children are annually taught. Our Female Charitable Society, for the wisdom and benevolence of its plans, and the usefulness of its efforts, has no rival in the country. Our twenty sabbath schools have 593 teachers, 2,978 pupils, and 3,331 volumes in their libraries. We have twenty religious societies, sixteen of which have permanent houses for worship. These edifices, several of which are massive and majestic structures, not surpassed by an equal number in any city in the Union, cover 60,106 square feet, or nearly one and a half square acres; the number of square feet in their audience rooms is 48,255; and the extent of their pew-room, 15,853 running feet. Two of these societies are Friends, and two Roman Catholic. Of the remaining sixteen, which are evangelical in sentiment, five are Presbyterian, two Episcopal, two Baptist, two Methodist, one Reformed Presbyterian, one Free Will Baptist, one Congregational, one German Lutheran, and one African. All but four of these churches have settled pastors, and all of them are regularly supplied with the stated ministrations of the gospel.

'The first organized Temperance effort in Ireland, if not in Great Britain, was made by the former pastor of this church, the Rev. Dr. Penney. The noble plan of supplying the whole United States with the Bible, originated in this city. Two of our churches have contributed more, the last year, to the cause of benevolence, than any churches, (with two exceptions,) in the Presbyterian connexion. Fifteen missionaries have gone from our churches to foreign lands. No place in our country is so distinguished as Rochester, for its revivals of religion—for the comparative number and size of its churches, or the elegance of their edifices; and but few can compare with it in sound morality and intelligence, in social order, in enlightened enterprise, and in stable, permanent prosperity.'

* The 'Allen Mill' was erected in 1789, for the sake of gaining a title to the adjoining land. A person, now living in the city, returning from that mill, has been followed to his own door by wolves. And so late as 1800, the mill, not supporting itself, was left vacant; and any of the settlers, as they had occasion, went to it, ground their own grain, closed the mill, and returned at their leisure. And this in a place which is now the largest flour manufactory in the world.

† The annual cost of the single item of cooperage for these mills, &c. is from $200,000 to $250,000

JOHN SHARK'S CONJUGAL ATTACHMENT.

As I am particularly fond of proofs of conjugal attachment between animals (in the human species they are so universal that I set no store by them,) an instance of that kind which the captain related to me this morning gave me great pleasure. While lying in Black river harbor, Jamaica, two sharks were frequently seen playing about the ship; at length the female was killed, and the desolation of the male was excessive:

'Che furò senz' Eurydice?'*

What he did *without* her remains a secret, but what he did *with* her was clear enough; for scarce was the breath out of his Eurydice's body, when he stuck his teeth in her, and began to eat her up with all possible expedition. Even the sailors felt their sensibility excited by so peculiar a mark of posthumous attachment; and to enable him to perform this melancholy duty the more easily, they offered to be his carvers, lowered their boat, and proceeded to chop his better half in pieces with their hatchets; while the widower opened his jaws as wide as possible, and gulped down pounds upon pounds of the dear departed, as fast as they were thrown to him, with the greatest delight and all the avidity imaginable. I make no doubt that all the while he was eating, he was thoroughly persuaded that every morsel which went into his stomach would make its way to his heart directly! 'She was perfectly consistent,' he said to himself; 'she was excellent through life, and really she's extremely good now she's dead!' and then, 'unable to conceal his pain,'

'He sigh'd and swallow'd, and sigh'd and swallow'd,
And sigh'd and swallow'd again.'

I doubt whether the annals of Hymen can produce a similar instance of post-obitual affection. Certainly Calderon's '*Amor despues de la Muerte*'† has nothing that is worthy to be compared to it; nor do I recollect in history any fact at all resembling it, except perhaps a circumstance which is recorded respecting Cambletes, King of Lydia, a monarch equally remarkable for his voracity and uxoriousness; and who, being one night completely overpowered by sleep, and at the same time violently tormented by hunger, ate up his queen without being conscious of it, and was mightily astonished the next morning to wake with her hand in his mouth, the only bit that was left of her. But then, Cambletes was quite unconscious what he was doing; whereas the shark's mark of attachment was evidently intentional.—*Lewis.*

* What shall I do without Eurydice?

† Love after Death.

United States Marine Hospital, at Chelsea, Mass.

MARINE HOSPITAL, AT CHELSEA.

The following account of the Institution, of which we give above an accurate representation, is derived partly from published statements respecting its origin and regulations, and partly from information obligingly furnished by the present distinguished physician, who resides there.

An Act of Congress was passed July 16th, 1798, making provision, by laying a tax of *twenty cents* a month on each man's wages, for the temporary relief of sick and disabled seamen, in public or private service. This tax, we believe, was repealed during the last session of Congress, and the expenses of the Institution will be defrayed hereafter, we presume, out of the national treasury. The supervisor of the revenue appears first to have had the charge of providing for their relief; and accommodations were procured for such seamen on Castle Island, in the harbor of Boston, for the port of Boston and Charlestown; and Dr. Thomas Welsh, who had previously been employed by the Secretary of War to attend to the sick soldiers at that island and the sick of the recruits then raising at Boston and its vicinity, was appointed physician of the Marine Hospital, by the Secretary of the Treasury, June, 1799. On the 21st of February, 1800, General Lincoln, the collector of the port, transmitted to the Secretary of the Treasury regulations proposed by Dr. Welsh, for the hospital at Boston, which were approved by the President.

Dr. Welsh was superseded by the appointment of Dr. Charles Jarvis, who took charge of the Institution when the patients were removed from the island to the building erected for them in Charlestown, on the first of January, 1804. The Marine Hospital in Charlestown, built of brick, was 100 by 40 feet, two stories and a basement. It contained a kitchen, a spacious hall, and nineteen rooms, with a garden spot of five acres. The average number of patients was about thirty.

In 1827, a site for a new hospital having been obtained in Chelsea, with ten acres of land, a rough stone building was erected, 105 by 50 feet, two stories above the basement, with wings for the accommodation of the steward and physician; into which hospital the patients were removed the first of October in that year. Dr. Jarvis continued physician and surgeon until his decease, in 1808, when Dr. Benjamin Waterhouse was appointed. He was superseded by the appointment of Dr. David Townsend, in July, 1809. Dr. Townsend continued physician and surgeon until his decease in April, 1829, assisted in the decline of life by his son, Dr. Solomon D. Townsend. Dr. Charles H. Stedman was appointed soon after Dr. Townsend's decease, and continues to the present time.

Benjamin Beal was the first steward, when the patients were accommodated on the island, and continued until 1808, when John Bullard was appointed. He continued about one year and a half, when in September, 1809, Mr. Adams Bailey was appointed, who continued in that trust until July, 1824, and at his decease Col. Charles Turner was appointed, who still remains in office.

The Hospital is under the immediate care of the Collector of the ports of Boston and Charlestown. A physician and surgeon is appointed by the President of the United States; all the other officers, or assistants, are appointed by the Collector, who is agent for the Institution.—A steward, charged with the procuring of such supplies as may not be otherwise provided, and with the safe keeping and issuing of all supplies; and who shall preserve order in the hospital.—A principal nurse, to prepare teas, drinks, and all light messes, keep the utensils in neat order, and observe economy in her department.—An additional nurse may be employed for every ten patients, if necessary; only two male nurses have been permanently employed, though some temporary additional nursing has been procured.

The steward's wife is the general directress. One female cook and one laundress are employed, who are assisted by the scavenger and house-cleaner. Each female has her particular business assigned, and particular apartments to keep clean and in order. Two laborers do all the necessary labor of preparing wood in winter, all the farming and gardening in summer; and attend to all marketing, and preparing all provision for cooking; distributing, with the assistance of the scavenger, the provisions to the convalescent room, and to the wards of all such as are unable to resort to the general table; and any other labor required. A scavenger, and a house-cleaner, assist the cook and laundress, and clean the whole house, by washing, &c. twice a week, and do any other service required. Two male nurses, and on some occasions an additional nurse, are employed. Their business is principally, under the direction of the physician, to attend to the reception of patients; to report the names of such as are admitted to the steward; to see that all are provided with beds, &c. and made comfortable; to administer medicine, agreeably to the physician's directions; to keep the dispensary and its utensils clean; and perform other duties incident to the business of nurses.

All persons employed in the Institution are forbidden to use any profane, abusive, or indecent language, to any person, inmate, or patient; and are required to treat all patients alike, and with that attention which suffering humanity demands. No ardent spirits are used by any person employed or by patients, in the hospital, except by direction of the physician and for medical purposes.

A dinner list, so called, containing the names of all patients, and the number of the wards in which they reside, is presented to the physician daily, for revision and alteration, and each patient is served with the provision assigned to him.

Ten acres of land belong to the Institution, a part of which is used for a garden, in which are raised a quantity of summer vegetables, and nearly all the potatoes necessary for the year.

We have seen a tabular statement of the number of patients, deaths, the expenses of the Institution, &c. for twenty-two years, preceding 1835; from which it appears that the whole number of patients transferred from one year to another during that time, was 822; number admitted anew, 8348; whole number accommodated, 9170; average number of patients yearly, 417; whole number of deaths, 533; average number of deaths yearly, 24¼; number of deaths compared to number discharged, 1-17¼; gross sums collected, $147,986 37; total amount of bills, $157,275 85. During the year, 1834, the number transferred from former years, was 47; admitted, 578; provided for, 625; deaths, 29; gross sum collected, $9,024 12; steward's hospital bill, $7,232 22; physician's salary, $1,000; paid for medicine, $442,72; total amount of bills, $8,675 68. The average number of patients daily during the same year, was nearly 53; the average number during the fourth quarter of the year, was nearly 65.

The following table of deaths which occurred in the hospital in a period of a little less than ten years, with the ages at which they took place, was constructed by the venerable Colonel Turner, steward of the hospital. From this table he has deduced a calculation of the average length of life among seamen.

Deaths in the Marine Hospital from October 1, 1827, to December 31, 1836, two hundred and forty-four, viz.

Under 20 years,	13;	being 1 in 29.
From 20 to 30,	103;	being 1 in 2¾.
30 to 40,	69;	being 1 in 3½.
40 to 50,	39;	being 1 in 6 2-5.
50 to 60,	13;	being 1 in 19.
Above 60,	7;	being 1 in 35.

The average length of seamen's lives, according to the above table, is thirty-two years, five and a half months.

In 1821, the Secretary of the Treasury issued a circular, directing all insane and incurable patients to be discharged, and prohibiting any remaining in the hospital more than four months; and directing that the expense, in any one year, should not exceed the amount collected in the port for that year.

It is proper, however, to state, that this regulation is not rigidly adhered to, in cases where the situation of the patient makes it important that he should remain. In such cases, the physician, on application to the Secretary of the Treasury, is authorized to retain them longer under his care. It is not true, therefore, as has been stated in a late publication,* that 'Bad as these accommodations are, no seaman is allowed to use them more than four months. At the end of four months, whatever his condition is, even if at the point of death, he must go! The almshouse is then his only refuge.' On the contrary, in a recent visit to the hospital, several patients were pointed out to us, who had been there five, six, and seven months.

In the work just alluded to, we find also the following statement, which deserves a passing notice. 'One fact will hardly be credited of this great, commercial, and humane nation. The sailors' hospital, at Chelsea, (Mass.) has poor, miserable accommodations, *it is said*.' Now so grave a charge ought not, one would suppose, to be made upon mere *hearsay*, when the author might so easily have ascertained the truth of the matter from personal inspection. In the visit just alluded to, we were led to form a different opinion. The inmates seemed perfectly satisfied with what was done for them, and were apparently as comfortable as any poor fellows could be, afflicted with so many of the 'ills that flesh is heir to.'

We were surprised, in looking over a report by Dr. Stedman, the physician and surgeon, of the cases which had come under his treatment during one quarter, to find so great a number and variety of diseases. No less than sixty-six are enumerated within the compass of only three months. We doubt if any place can be found in the country where a medical student would be so favorably situated for the successful prosecution of his studies.

A.

* Sea Life, by William Sullivan.

MUSCAT.

If any of our readers were told that the sultan of Muscat had a navy about as large as ours, they might be very incredulous, till they looked at facts. But, nevertheless, the sultan has a powerful navy. We gather, from 'a Digest of existing Commercial Regulations of Foreign countries, with which the United States have intercourse,'—a most valuable work, by the way, printed by order of Congress—the following statement of the naval force of the sultan of Muscat.

Names.	Rates.	Where built.	Station.
Liverpool,	74	Bombay,	Zanzibar.
Shah Allum,	56	Bombay,	Zanzibar.
Caroline,	40	Rangoon,	Muscat.
Prince of Wales,	36	Demaun,	Muscat.
Henningshaw,	36	Cochin,	Calcutta.
Piedmontese,	32	Muscat,	Muscat.
Mossapa,	24	Cochin,	Muscat.
Rahmani,	22	Bombay,	Muscat.
Falke,	18	Demaun,	Bombay.
Soliman Shah	18	Muscat,	Muscat.
Curlew, brig,	12	Bombay,	Muscat.
Psyche, brig,	12	Cochin,	Muscat.
Sage, yacht,	6	Malabar Coast,	Zanzibar.
Vestal,	6	Muscat,	Muscat.
Elphinstone,	6	Bombay,	Bombay.

Also 50 *baghelas*, carrying from 8 to 18 guns; and 10 *balits*, carrying from 4 to 6 guns. The *baghela* is a one masted vessel, of from 200 to 300 tons. The *balit* is also a one masted vessel, from 100 to 200 tons. Part of these vessels are used to convoy vessels to the Persian Gulf, and some are in Africa, &c.

Thus it is seen that the sultan of Muscat is a powerful prince. He possesses a more efficient naval force than all the native princes combined, from the Cape of Good Hope to Japan. His possessions, in Africa, stretch from Cape Delagado to Cape Guardafur; and from Cape Adra, in Arabia, to Ras el Haud; and, from Ras el Haud, they extend along the northern coast of Arabia, or the coast of Aman, to the entrance to the Persian Gulf, and he claims, also, the sea coast and islands within the Persian Gulf, including the Barhein islands, and the Pearl Fishery, contiguous to them, with the northern coast of the Gulf, as low down as Scindy.

The vessels of the sultan trade not only with his own ports in Africa, and the valuable islands of Monpœa, Zanzibar, Pemba, and Socotra, but also to Guzzerat, Surat, Demaun, Bombay, Bay of Bengâl, Ceylon, Sumatra, Java, the Mauritis, the Comora islands, Madagascar, and the Portuguese possessions, bringing Indian, African, and European articles. About two thousand vessels are thus engaged in this trade, of which a very large proportion are small craft, to be sure. The naval force of the sultan gives him entire control over all the ports in East Africa, the Red Sea, the coast of Abyssinia, and the Persian Gulf. This force consists, it seems, of between seventy and eighty sail of vessels, carrying from seventy-four guns to four. The officers of this force practise lunar observations, and have excellent chronometers.

Since our treaty with the sultan, in 1835, our vessels are beginning to push an advantageous trade there, though they encounter formidable competitors in the British, who enjoy great advantage from their Indian possessions. The exports are gum copal, aloes, gum arabic, ivory, tortoise shell, hides, beeswax, cocoa, rice, ghee, dates, raisins, and a great variety of drugs.

These statements are corroborated by information which we have received from a gentleman who has seen the Liverpool and Shah Allum, and two or three sloops and brigs of war, at Zanzibar, a place which he has repeatedly visited. Zanzibar is an important port in the sultan of Muscat's dominions, and probably the town contains ten or twelve thousand inhabitants. The people are of course chiefly Arabs; but they have a great number of slaves, brought from Africa. The merchants who speak English very well, are the Banyans, a sect from Hindostan. The island itself is fertile and pleasant, and a considerable trade is carried on there by the Americans, in gum copal, ivory, &c. which are brought from Africa. The sultan has a palace of stone, built at Zanzibar within three or four years, and quite handsome. He is a fine looking and pleasant man, and very generous and hospitable to the Americans. When our informant was lying there at anchor, a person who had been staying on board was obliged to go on shore to wait for his vessel. The sultan ordered him to be provided with a house and every thing needful.

S.

PADDY AND THE ECHO.—'Patrick! where have you been this hour or more? You must not absen' yourself without my permission.'

'Och, niver more will I do the like, sir.'

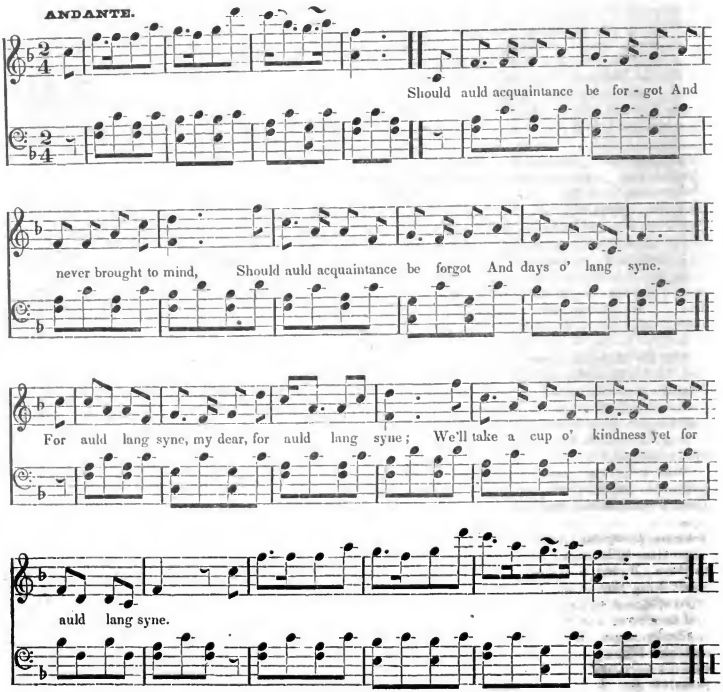
'Well, give an account of yourself, you seem out of breath.'

'Fath, the same I am, sir; I niver was in sich fear since I come to Ameriky, I'll tell ye all aboot it, sir, when I get breath wonst agin.'

'I heard ye tilling the gintlemen of the wonderful hecho, sir, over in the wood, behint the big hill. I thocht by what ye said uv it, that it bate all the hechoes uv ould Ireland, sir; and so it does, by the powers! Well, I jist run over to the place ye was spakin uv, to converse a bit with the wonderful cratur. So said I, "Hillo, hillo, hillo!" and sure enough the hecho said "Hillo, hillo, hillo! you noisy rascal!" I thocht that was very quare, sir, and I said, "Hillo!" again. "Hillo yourself!" said the hecho, "you begun it first." "What the divil are you made uv?" said I. "Shut up your mouth," said the hecho. So said I, "ye blathern scoundrel, if ye was flesh and blood, like an honest man that ye isn't, I'd hommer ye till the mother uv ye wouldn't know her impedent son." And what do you think the hecho said to that, sir? "Scamper ye baste of a Paddy," said he, "or fath, if I catch you I'll break ivery bone in your ugly body." An' it hit my head with a stone, sir, that was nigh knocking the poor brains out of me. So I ran as fast as iver I could; and, praised be all the saints, I'm here to tell you uv it, sir.'

Auld Lang Syne,

A FAVORITE SCOTCH AIR.



2.
We twa ha'e run about the braes,
And pued the gowans fine;
But we've wandered mony a weary foot,
Sin auld lang syne.
For auld lang syne, &c.

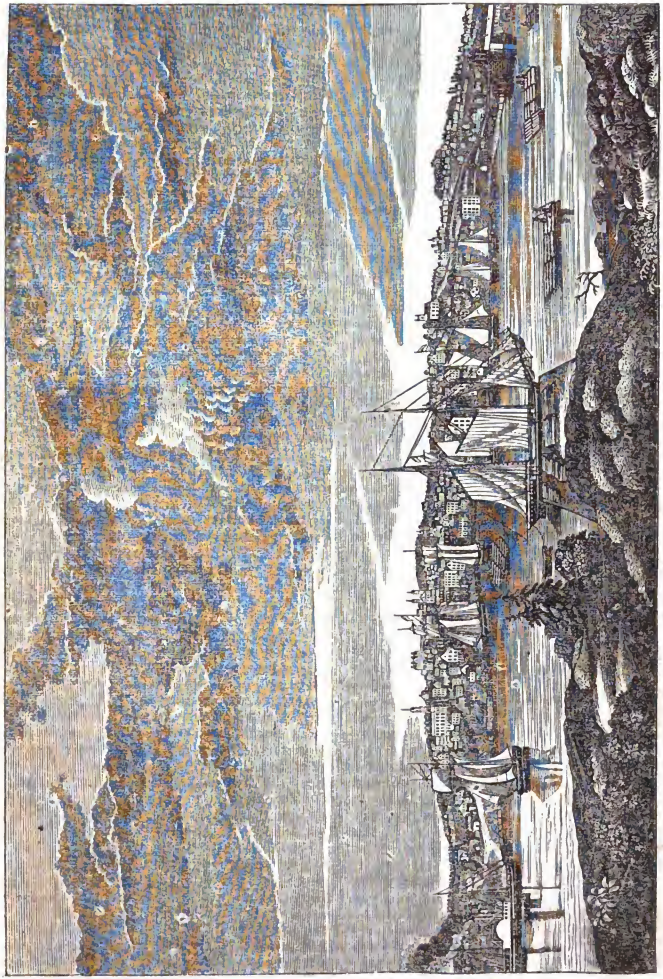
3.
We twa ha'e paidlet i' the burn,
Frae morning sun till dine;
But seas between us braid ha'e roar'd
Sin auld lang syne.
For auld lang syne, &c.

4.
And there's a hand my trusty fiere,
And gie's a hand o' thine;
And we'll tak' a right gude willie waught,
For auld lang syne.
For auld lang syne, &c.

5.
And surely you'll be your pint stowp,
And surely I'll be mine;
And we'll tak' a cup o' kindness yet,
For auld lang syne.
For auld lang syne, &c.

Note. Any words in common metre can be sung to the above music by disconnecting the tied notes.

JUNE.



VIEW OF THE CITY OF BANGOR, MAINE.

BANGOR.

Bangor is pleasantly situated on the western bank of the Penobscot river, at the head of the tide and navigation, thirty miles from its mouth. The Kenduskeag stream, which here enters the main river at right angles, divides the compact part of the city into nearly equal parts. The land on each side of this stream rises to a considerable height; and the village, which stretches from it and the Penobscot in every direction, presents a beautiful and picturesque appearance, particularly on approaching it from down the river, when it is gradually disclosed to the view. The scenery viewed from the height of land on the north westerly side of the village is delightful. From this point in a clear day the Katahdin mountain, with its snow-white summit, at a distance of more than seventy miles, can be distinctly seen.

Bangor, originally called the Kenduskeag plantation, from the stream above alluded to, now extends about six miles on the river. It formerly included a considerable portion of what is now Orono, situated above, and Hampden, below, and contained in 1790, 567 inhabitants. It then probably contained double the extent of territory now comprised within its limits. According to Judge Williamson's valuable History of Maine, published about five years since, the first settler came to this plantation with his family in the latter part of 1769. In the ensuing year, several other families came to the place; and, in 1772, the settlement contained twelve families. In March, 1787, a public meeting was held for the purpose of taking measures to build a house of worship, the records of which are said to be the earliest extant. The first clergyman, the Rev. Seth Noble, a whig refugee from the province of Nova Scotia, who had resided in the plantation about one year, was engaged by the people living on each side of the Penobscot, to officiate for them, and he agreed to remain their pastor so long as they would pay him a salary of four hundred dollars. He continued with them about twelve years. His installation took place under an oak tree. To him was committed the agency of procuring an act of incorporation for a town, which was obtained in February, 1791. The inhabitants of the plantation in public meeting instructed him to have it called *Sunbury*, which name was probably suggested by the pleasant appearance of the place. Perhaps the reverend gentleman did not coincide with his constituents as regards the doctrine of instruction, and not manifesting a disposition to 'obey or resign,' he assumed the responsibility of substituting the name of *Bangor*. Some supposed the name might have escaped his recollection, and having a strong partiality for the good old psalm tune, he caused its name to be placed in the act of incorporation. We do not learn that this departure from 'democratic usage' occasioned any unpleasant feelings on the part of his constituents toward him.

The first public building in Bangor, the Court House, now the City Hall, was erected in 1812, and was occupied by the courts, and for religious and other public meetings till 1822. During the latter year, the first meeting-house was built for the only religious society then existing in Bangor, over which the Rev. Harvey Loomis was settled, who was ordained in 1811. This excellent and universally beloved man preached to this society till January 2d, 1825, when he died suddenly in his pulpit before the commencement of the forenoon services. Singular as the fact may appear, he had selected for his text the following passage of scripture,—'This year thou shalt surely die.' This meeting-house was consumed by fire five years afterwards, and in 1831 its place was supplied by a very handsome edifice of brick. The Unitarian, Baptist, and Methodist houses of worship were commenced in 1828, and completed in that and the succeeding year. The Hammond street church, built by a portion of the Calvinistic society, was completed in 1834. St. John's church, a beautiful edifice intended for the Episcopalian order, was erected during the last season, but has not yet been occupied. At the same time, a large brick church for the Methodist society, and a small one of wood for the Catholics, were commenced, and will probably be completed during the present season. The whole number of churches will then be eight. A large and commodious Court House of brick, containing the several county offices, and a stone jail were erected in 1832. The Maine Charity School, or Theological Seminary, incorporated in 1814, and opened in Hampden in 1816, was afterwards removed to Bangor, and a classical school connected with it. The principal building of brick, four stories high and similar to the usual college edifices, is situated on a commanding eminence on a tract of land including seven acres, the donation of the late Isaac Davenport, Esq. of Milton, Massachusetts. Another of the same size is in contemplation, as also a large and elegant chapel, and residences for the professors connected with the seminary. There are four professorships, and the funds of the institution amount to about one hundred and twenty thousand dollars. It is under the direction of trustees of the Calvinistic denomination. The Bangor House, a more particular description of which may be given hereafter, is a large and splendid hotel, very similar to the Tremont House, in Boston. It was first opened for the reception of company on the first day of January, 1836. It is a building which reflects great credit upon the enterprise of its projectors and proprietors. There are several other large and commodious public houses in the city. There are three bridges across the Kenduskeag stream, two of which are the result of individual enterprise. A large, covered bridge is extended across the Penobscot.

The first printing office was established in the autumn of 1815, by Peter Edes, now the oldest printer in the Union, who, after an absence of a few years, has returned to Bangor to pass the eve of life in the family of one of his children. He immediately established a weekly newspaper. At the present time, there are six printing offices from which are issued five weekly papers, to which number another is soon to be added, two dailies, and the only monthly periodical in the State. The first bank was incorporated in 1818. There are now

nine, whose aggregate capital is $900,000. These do not fully supply the wants of the community, a circumstance tending somewhat to show the extent of its business operations. The chief business is the traffic in lumber, which gives rise to a large amount of other business. Intimately connected with it is that of navigation, in which many are extensively engaged. This would have been more extended, did not the severity of the winter season occasion obstruction by the ice, between four and five months of the year. During this portion of the year, however, vessels can reach Frankfort, twelve miles below, with perfect safety. A remedy for this interruption is being sought out by means of a rail-road between these two places, which will greatly facilitate operations. In this matter of rail-roads, the Bangoreans have outdone other citizens of their State. The first rail-road in Maine, from Bangor to Old town in Orono, about twelve miles in length, built at an expense of about $250,000, was opened in November last, and has not been obstructed but for a single day, during the interim. It reflects great credit upon the enterprise and public spirit of Messrs. Edward and Samuel Smith, its projectors, who have, in several other measures, done much to benefit the city.

Bangor was incorporated as a city in the winter of 1833-4, and the charter being accepted in the spring of the latter year, Allen Gilman, Esq. who had resided in the town about thirty-five years, was elected Mayor, and held the office for the term of two years. He was succeeded by Edward Kent, Esq. the present incumbent. Both of these gentlemen are natives of New Hampshire, and members of the legal profession. The want of a city form of government had been sensibly felt, and the result has shown that its adoption has been a very important measure in facilitating the progress of public improvement. Its march has been onward, and it appears to have been the watchword of every citizen. A city market of ample dimensions has been commenced, and will probably be completed in the course of this or the coming year. It will be an ornament to the city, and another strong proof of the enterprise and public spirit of its citizens. While their attention has been so strongly fixed upon the welfare and interests of their fellow beings, they have not been unmindful of those who have passed, and are continually passing from among them. A public cemetery, at Mount Hope, on the plan of Mount Auburn, was consecrated in July last, in the usual manner. The grounds comprise about thirty acres, twenty of which belong to the city, and the remainder to individuals, having been put into lots and sold. The location is very fine, about two miles from the compact part of the city, and is said to be inferior to no other place of the kind, Mount Auburn excepted, for the advantages of soil, situation, and shrubbery. Connected with it are a beautiful green house and garden, under the care of a gentleman who devotes his whole attention to it, and whose labors already have done much to beautify and adorn the place. It will be made one of the most beautiful spots on the Penobscot, and is likely to become, comparatively speaking, a place of quite as much resort as Mount Auburn.

On the outskirts of the city, and within its limits, two or three villages are rapidly springing up. Owing to their peculiarly excellent location for the purposes of milling and manufacturing, they have fallen into the hands of capitalists, who have a fair prospect of reaping a rich reward for their investments. The principal of these is the village of North Bangor, where are situated the extensive works of the Penobscot Mill Dam Company. Thirty saws have already been in operation, and their charter allows of a great increase, giving as it does, the privilege of erecting their works for a considerable distance on the banks and falls of the Penobscot. This village is about four miles from the centre of business, on the main road to Orono, and three from the Lower Stillwater village, where very extensive operations of a similar character are contemplated. The Kenduskeag Stream, on which one of these villages is situated, has ample advantages for manufacturing purposes; to further which a company has recently been incorporated.

The population of Bangor, within the few last years, has increased with great rapidity. In 1800, the whole number of inhabitants was 277. Seven years previous, the rateable polls were 45, and sixteen years afterwards, 252. In 1810, the whole population amounted to 850; in 1820, 1,221; in 1830, 2,828. At the present time, the whole number, including foreigners, is estimated at 9,500. This astonishing increase is almost without a parallel in this country. Whether it will continue to grow in a corresponding ratio, it is very difficult to determine, so fluctuating is the general state of business. One thing, however, is certain. Bangor will inevitably 'go-a-head' with a strong hand, and if it does not increase for the same length of time to come in a like ratio, its advance will be strong and steady.

The following comprehensive extract may well conclude this sketch of the history and progress of Bangor. The rapid and unexampled increase of the city of Bangor in wealth, population and business, within the short period of three years—its facilities and resources for still farther increase, warrant us in saying, that at no distant period of time, it is destined to become one of the first cities within the Union. Its local situation is unrivalled in the New England States—at the head of navigation, on one of the finest rivers in the United States, near the centre of territory of Maine, surrounded by a superior country, rapidly improving, and commanding all the resources of lumber from the head waters of the Penobscot and its tributaries, it presents such encouragement to the farmer, mechanic, and the merchant, as perhaps cannot be found in any other place. It is the centre of a Basin of nearly 10,000 square miles, of a soil unsurpassed in fertility—which must eventually become the great depot of its produce, and the great mart of exchange for the eastern portion of the State. The immense range of timber lands and the fast settling towns and villages of the interior, to say nothing of our commercial resources, promise an exhaustless supply of material, upon which our

enterprise may work. Water privileges, unrivalled in power and extent, are within the reach of the city, and to the eye of the experienced observer present the germs of many a manufacturing establishment, and the means of employment and support to thousands. Wherever we look, we find something to aid us in our advance to prosperity, and with these advantages, what shall put us back? Fifty years ago, and this was a wilderness. Fifty years hence, and what will it then be? Let the example of the few past years, and the well known and acknowledged enterprise of our citizens answer.

C. G.

ZOOLOGY.

Appended to a report, made not long since to the House of Representatives of Massachusetts, is a letter from Augustus A. Gould, M. D. written in behalf of the Boston Society of Natural History. Dr. Gould is so well known for his attainments in Natural History, that any thing coming from him in relation to the subject is entitled to great respect. We accordingly take pleasure in presenting our readers with an extract. His object is, to state the views of the Society respecting a further geological survey of Massachusetts, in connexion with its zoological examination.

'We would allude,' he says, 'more particularly to the department of natural history. Professor Hitchcock intimates that collections of plants and animals for the use of the State, and for deposite in some of our principal institutions, may be attended with results very valuable to the State. With that intimation we entirely concur. It has been the main object of this society, to investigate the natural history of our own State; and we cannot permit an opportunity like the present to pass without urging the importance of this subject. Before the formation of this society, in 1830, great ignorance of the natural productions of the State prevailed; and the little that was known, had been principally determined by foreigners. We may safely say, that eight years ago there was no man, nor body of men, who could give us any tolerable list of the animals and plants of Massachusetts. And even now, we believe that our objects of natural history, are better known in Sweden and France than in Massachusetts.

'Much, then, remains to be done. Other States are securing, in their surveys, a knowledge of the things in the waters, and on the surface of the earth, as well as of the things under the earth. Are there not reasons, both of expediency and utility, sufficient to induce us to secure a similar knowledge?

'That we have as yet no list, that is pretended to be any thing like complete, is an inducement. The list of plants and animals in the second edition of Hitchcock's Survey is surprisingly augmented; and even that might now be greatly increased. No list manifests greater care or research than that of the birds; and yet one gentleman, constantly engaged in professional pursuits, and within three miles of Boston, has been able to determine, within the last year, that forty-six species of birds, not named on the list, belong to this State.

'It is very desirable, that every considerable animal, and every plant in the State, should be collected, determined, described, and catalogued. It must and will be done; and if we neglect it, strangers will bear away the honor.

'It will of course be asked, what direct good may be expected from accomplishing such an object? Of what consequence is it to the farmer, to know any thing about birds, and bugs, and shells? A few examples may illustrate the importance of a zoological survey.

'Animals are destroyed, whose natural habits render their destruction of doubtful utility, such as crows, blackbirds, and wood-peckers. It is true, that the crow pulls up the blade of corn for the sake of the kernel at its base. But then, he preserves a tenfold greater quantity from the inroads of the worms which he devours. "Why, then, should the farmer be so ungrateful," says Mr. Audubon, "when he sees such services rendered to him by a provident friend, as to persecute that friend, even to the death? When I know by experience the generosity of the people, I cannot but wish that they would reflect a little, and become more indulgent towards our poor, humble, harmless, and even most serviceable bird, the crow."

'History tells us, "that when Virginia, at an enormous expense, had extirpated the little crow, the inhabitants would have willingly bought them back again, at double the price, that they might devour insects;" also, "that when the farmers of New England, by offering a reward of three pence per head on the crow-black-bird, had nearly exterminated them, insects increased to such a degree as to cause a total loss of the herbage; and the inhabitants were obliged to obtain their hay from Pennsylvania and other places."

'No bird is more universally or unjustly persecuted than the wood-pecker, because of his supposed injury to our fruit and forest trees, when, in truth, he is doing no injury to the tree. He is furnished by a kind Providence with a bill capable of penetrating the bark, and a long barbed tongue, to draw out the insects which are destroying the tree.

'It is usual to stone the sparrow from our gardens, under the supposition that he picks up the seeds which we have deposited there, when he is really devouring nothing but the grubs and other insects, in which the rich garden earth abounds, and which are the real destroyers of the seeds. It has been calculated by observation, that a single sparrow, with young, devours 3,360 caterpillars in a week, or 480 per day.

'Reptiles are universally dreaded and exterminated; yet a more harmless race, certainly if we speak of Massachusetts only, does not exist. Reptiles prey sometimes upon each other, but generally upon mice, insects and worms, of which they destroy incalculable numbers. Every *toad* a man can introduce into his garden, renders it less likely that he will be molested by really destructive vermin.

'No State is so largely concerned in the fisheries as Massachusetts,—and it is certainly discreditable

to us that the inhabitants of our waters should be so imperfectly known; and no State furnishes such an opportunity as this, of becoming acquainted with the inhabitants of our Atlantic waters.

'Perhaps no portion of the animal creation affords so wide a field for important research, as the insect tribes. Their ravages are enormous, while their number and minuteness render opposition by physical force, nugatory. The history of the weevil, the hessian fly, and the canker worm, furnishes examples in point. By a knowledge of the habits of the latter, it is not difficult to restrain their inroads. How much is yet to be learned respecting the numerous caterpillars, and grubs, and weevils, which infest our State, no farmer or gardner needs to be told. The simple fact that every boy crushes the caterpillar, while he admires and cherishes the butterfly, the parent of all the caterpillars, shows how much need there is of general information, and that our agriculturists should be informed of such simple, practical truths as shall render their operations more successful.

'An important article in daily use by every physician is the *blistering fly*. These flies are now all imported from the south of Europe. But every farmer *should* know, that several species of flies, equally effectual as the Spanish fly, abound in every potato field.

'In this connexion, we may mention another important article of commerce, the medicinal leech. There are several species of leech in our waters, and some of them might, doubtless, be improved and multiplied, so as entirely to supersede the foreign animal.

'It is important, also, that our *forest* trees should be better known by our farmers; and the different vegetables and grasses which their respective districts are best adapted to produce. This may be effected by a botanical, in connexion with the geological survey of the State.

'We instance these few examples, to shew the nature and importance of the information to be expected from the researches into the natural history of this State. A volume of similar facts, already known, might be adduced. We apprehend no book could be presented to the people which would enhance the success of the laboring classes, or be read with more avidity and usefulness by the school boy than a history of the *natural productions* of Massachusetts.

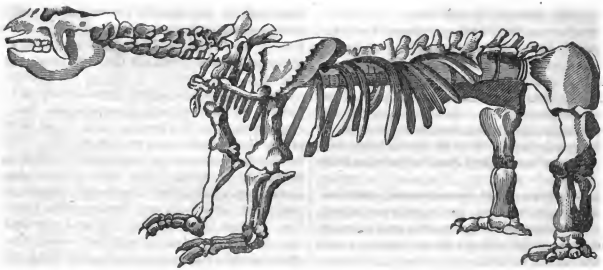
'In conclusion, we would add, that we most earnestly hope, that such measures will be devised by the legislature, as will conduce to a more thorough knowledge of the natural history of the State in all its branches, and for a collection and preservation of such objects of interest and usefulness, as will advance the interests of science and human happiness.'

In addition to the facts contained in the preceding extract, it may be well to observe that the celebrated ornithologist, Wilson, has entered into a deliberate calculation of the exact value of the red-winged blackbird, which certainly is a very unpopular bird with the farmers. He shows, that, allowing a single bird fifty insects in a day, which would be short allowance, a single pair would consume twelve thousand in four months; and, if there are a million of pairs of these birds in the United States, the amount of insects is less by twelve thousand millions, than if the red-wing were exterminated.

From these statements, some of which may surprise persons who have not given attention to natural history, it is obvious that much advantage might be derived from the study of it. There is hardly any class in the community which may not be benefited by it. The farmer, the artizan, the divine, the philosopher,—all may learn lessons of practical value from the elephant down to the spider, the bee, and the ant. The study can easily be pursued, to some extent, by every person who lives in the country, and he will find it a very pleasant as well as useful employment. It is almost impossible for any one to make very great attainments in it without becoming even an enthusiast. We were walking some months since on a gravel sidewalk in company with one of the most eminent entomologists of the present day, when on a sudden, he stooped down and picked up something out of the dirt. 'Oh! what a pity,' said he, as he showed us a little bug about the eighth of an inch in length, 'what a pity! Somebody has trodden on it and crushed one of its legs; what a fine addition that would have been to an entomological cabinet!' This insect, if we calculated only the pecuniary value, would probably have been worth five dollars in Paris. We hope more interest will be awakened upon this subject to which the community within a few years has been giving increased attention. Almost every number of our work contains something in relation to it, and we shall be glad to receive information and make our readers acquainted with the most important discoveries in natural history, and other sciences in their various branches, which may come within our knowledge. The liberal appropriations which have been made towards promoting these objects within a few years by the governments of several of the States, are highly praiseworthy. The community will be essentially benefited by them. The hidden treasures of the country will be explored and brought out for the good of society.

S.

Running in debt.—If youth but knew the fatal misery that they are entailing on themselves, the moment they accept a pecuniary credit, to which they are not entitled, how they would start in their career! how pale they would turn! how they would tremble, and clasp their hands in agony, at the precipice on which they are disporting! Debt is the prolific mother of folly and crime; it taints the course of life, in all its streams. Hence so many unhappy marriages, so many prostituted pens, and venal politicians! It hath a small beginning, but a giant's growth and strength. When we make the monster, we make our master, who haunts us at all hours, and shakes his whip of scorpions forever in our sight. The slave hath no overseer so severe. Faustus, when he signed the bond with blood, did not secure a doom so terrific.—*D'Israeli.*



Skeleton of the Megatherium, or Giant Sloth.

MEGATHERIUM, OR GIANT SLOTH.

This animal is one of a species long since extinct, and known only by bones which have been discovered in different parts of this continent. How many ages have passed away since he lived and roamed over the earth can never be known. Neither history nor tradition give us any clue to his character, or even intimation of his existence. Whether the eye of man ever looked on a living individual of the species, can now only be matter of useless conjecture. At any rate it is certain that great changes have, since its extinction, taken place on the surface of the earth; for the most perfect specimen yet procured was found in a sandy soil, at a depth of at least one hundred feet.

But four skeletons of this extraordinary animal have as yet been discovered. The first (the one already alluded to) was obtained from some excavations made on the banks of the river Luxan, near a town of the same name, situated about three leagues west-southwest of Buenos Ayres. It was sent to Spain by the Viceroy of Buenos Ayres, the Marquis of Loretto. There it was was mounted in the Museum of Madrid by Don J. B. Bru, who first published a description of it. Another specimen was sent to the same cabinet, in 1795, from Lima, and a third was discovered in Paraguay. The only skeleton yet found in North America was discovered in Georgia. It was first indicated by our celebrated countryman, Dr. Mitchill, to whom two fragments of its teeth had been sent from an island on the seacoast of Georgia, and was afterwards more fully described by Mr. W. Cooper, of New York, in the first volume of the Annals of the Lyceum of Natural History.

Respecting the Sloth family, to which the Megatherium belongs, Cuvier remarks, 'In considering these beings, we find so few relations with ordinary animals—the general laws of existing organizations apply so little to them, the different parts of their bodies are so much in contradiction to the rules of co-existence established throughout the animal kingdom—that we might really believe them to be the remains of another order of beings, the living fragments of that antecedent nature, whose other ruins we are obliged to seek in the bosom of the earth, which by some miracle have escaped the catastrophes that destroyed their cotemporary species.'

The relative proportion of the extremities is not the same as in the existing varieties of the Sloth, where the anterior have nearly double the length of the posterior limbs. In this animal the inequality is much less. But in return, the disproportionate thickness of the thigh and leg bones is carried here to an excessive degree, the thigh bone being in height only double its greatest thickness, which renders it larger than that of any other animal known, not excepting the Mastodon. This general disposition of the extremities leads to the conclusion, that this animal had a slow and equal gait, and advanced neither by running nor leaping, like animals having the fore limbs shorter, nor by crawling, like those which have them longer.

The skeleton dug up in Paraguay is twelve feet nine inches long, and six feet four and a half inches high. The great size of this animal precludes the idea of its living upon trees, exactly in the manner of living Sloths, but every thing discovered of its structure forbids us from thinking that its mode was wholly different. A Sloth of the size of a large ox would find few trees whose branches would be capable of sustaining so great a weight; but in not climbing, it would not differ more from the Sloth, than species of other genera do from each other.

From various comparisons and investigations respecting the character of this animal, Cuvier lays down the following positions; 'first, that the animals which furnish these fossil bones were not carnivorous; and secondly, that they had, in large, all the forms and all the details of organization that the Sloth exhibits in small, and that the details of this organization must have been similar; thirdly, that if they are separated from them in some unimportant particulars, it is only in approaching the nearest allied genus, that of the ant-eaters; fourthly, that the approximation of these fossil animals to the Sloths, and their classification in the *Edentous* family, in general, are not arbitrary, nor founded on artificial characters, but that they are the necessary result of the intimate identity in the nature of both.'

From Bowring's Minor Morals.

ORDER.

One morning there was considerable perplexity. Arthur's Latin exercise book was missing, with his exercise in it. Nobody knew where it was. He did not know himself whether he had left it at school, or brought it home. Sure it was that he could not find it, and sure, too, that he had the vexation of being forced to write his exercise over again, his brother having lent him his exercise book to enable him to do so.

'And thus, Arthur,' said Mr. Howard, after half an hour had been wasted in the fruitless search, 'and thus you have caused yourself a great annoyance, which might have been prevented by a very little care.'

In Mr. Howard's family all such events were wont to lead to useful conversation on the various topics started. So it happened now. And order was the order of the day.

'I have seen many cases, where a wise arrangement of matters,' said Mr. Howard, 'has given to a man of inferior industry, inferior zeal, and inferior talent, great advantage over him who possessed all these qualities in a far superior degree. In ordinary affairs, a habit of order is a source of more comfort than you would suppose, could possibly depend upon, or be influenced by it. It doubles the usefulness of all the stores we possess by placing them where they are immediately at hand. The possession which cannot be called into the field when wanted, is of no more value than an estate in the moon.

'A smaller portion of knowledge, well ordered and arranged in the mind, is more valuable than a larger portion which is in a state of confusion. No matter how costly the treasures you collect, unless they are accessible they are of little use; they may be even an incumbrance. I remember, during the Peninsular war, seeing some soldiers so overladen with pillage as to impede their march, so that they either lost their lives or fell into the hands of the enemy. "Knowledge," my old Philosopher Friend used to say, "should, like any other material, be portable, without fatigue. If the workman is overburdened, no matter whether it be with rubbish, or the most useful and necessary things,—these become rubbish when they become unmanageable."

'Marmaduke Method was a boy who made his way through the world, and established a great reputation, and died possessed of great wealth; and he owed all his success to his habits of regularity and order. He was not remarkable for talent, not even remarkable for any thing but this one circumstance; but the practice which he had adopted in early life, of "putting every thing straight," as he called it, left much time on his hands, enabled him to enjoy many pleasures more than his companions, spared him many vexations, and brought, at last, distinction and opulence to himself and his children.

'Marmaduke was the child of very poor parents. They could afford him only a small portion of instruction, so they paid for him twopence a week at the parish school. When very young, he was observed by his mother standing on tiptoe, and endeavoring to drive a large nail into the wall with a stone he could hardly lift. She found this was to hang his hat upon, for he had been much distressed the day before by seeing his father sit down on his hat, which he had incautiously left on the chair. From that day, however, the hat was always either on Marmaduke's head, or on the nail, or in the appointed place at school. Soon after he found the means of getting two other nails, on which he suspended his best pair of shoes, and always took care that they hung straight, for it is not more useful to put them in their right places, than to put them there tidily and carefully. By and by he got a little shelf on which the two or three small books he had were kept nice and clean. They were not soiled with dirt, nor rumpled with dogs ears, but spoke for themselves in favor of the attentive little boy. His clothes were coarse, but always neatly buttoned; his common shoes were old, but always clean and carefully tied. He could not bear to see any thing wrong which a little trouble would put right, so that when he was seven years old, his schoolfellows gave him the nickname of Mr. Orderly, a name which he well deserved. He laughed at the boy who first called him so, and never felt an instant's annoyance when all the other boys took the hint and called him Mr. Orderly too.

'Before he was nine years old, his mother died, and his father removed him from school, and obtained a place where he got sixpence a day for cleaning knives and forks and shoes, and running such errands as were required.

'He became a favorite with the servants, since he did every thing so cheerfully and well. Every body knew where to find what Marmaduke had put away, and all his doings appeared to the greatest advantage, from the order in which he left them. His knives and forks were always arranged side by side, as bright and regular as attention could place them. If he cleaned the plate, it seemed to shine with double lustre, as one piece reflected back the polish of the next. If he was sent on messages, he so arranged it as to go the least distance, and to employ the least possible time, by taking them all in order, which was also "putting every thing straight." He had, in truth, a love for right lines of all sorts, and received so much pleasure from the best arrangement of things, that order, and virtue, and happiness were very much alike to him.

'He had not read the poets, nor heard the verse which says that "Order is heaven's first law." He did not know by what wonderful regulations suns and stars are kept in their places, seasons return, night and day succeed one another, and generation follows generation. But he had a sense, a tact, which taught him that order was beauty, and that order was wisdom, and the want of order was therefore discordant to his mind. So he naturally sought to "put things straight," and when he had done so, he felt as if he had done a good deed, and one that brought with it instant recompense.

'The lady of the house where Marmaduke was, had occasion to go into the kitchen one day, and

saw how very nicely he had done his work. She spoke of it to her husband, who had also marked with what neatness and order Marmaduke arranged the shoes he had blacked, and the clothes he had brushed.

'The gentleman recommended Marmaduke to a neighboring chemist, and that love of order, which was quite a habit, and almost a passion with the boy, soon showed itself in the chemist's shop. Marmaduke was very careful not to disturb any thing that was in place, but his anxiety to have every thing straight, soon enabled him to arrange matters that had been before neglected, and great was the comfort which his master found in the humble services of the lad. The pins, which were before scattered on the floor, were now invariably collected on a pincushion; the pens, which had been thrown about in different places, were now always found in the inkstand; the empty phials were now constantly placed in order, according to their sorts and sizes, and the rags and bits of paper, which were before swept every evening out of the shop, were now collected by Marmaduke, and, by the chemist's consent, sold to the rag collector at the end of the week for a few pence, which served as pocket-money for Marmaduke, and with which he began his little fortune. Every penny so collected he entered in an account book, and thus the value of money was habitually present to his mind, and as he also entered every farthing he expended, the entry being in view whenever he opened his book, served as a check upon any improper outlay. He thus learned too by his own little affairs to keep accounts correctly, and he was at last allowed to make entries in the books of the chemist. His habits of neatness were such, that, though he wrote indifferently, his love for having "every thing straight," made his writing plain and clear. Time improved his hand, and he was soon trusted to keep the journal and the ledger of the trade.

'I need not tell you, that a boy so orderly was very attentive to his person. His coats and trowsers lasted longer than those of most boys of his age, because he was accustomed to be so careful of them. One thing he did which was of real use to the chemist. He copied into a book every prescription that came in, with its date and cost, and made a complete index of all the articles it contained, and of the initials or signatures of the physician that signed it. He thus got a great deal of medical knowledge, and was able at any time to refer to the medicine he had prepared for a particular person. One day, when he heard of a young lady, who had been poisoned in consequence of a chemist's boy having sold her oxalic acid instead of Epsom salts, he had great pleasure on reflecting that since he came to the chemist's, no one mistake had been made. If you had asked him how he managed to be so fortunate, he would tell you it was by "keeping things all straight," and so indeed it was.

'Marmaduke grew to manhood, and he had the satisfaction of thinking that ever since the age of nine, he had provided for himself; he not only had been of no expense to his father, but he had saved thirty pounds, to which he was now able to add ten pounds a year more, so that he now felt himself in a situation of what seemed to him independence.

'But though the chemist had never told Marmaduke how sensible he was of all the use he had been to him, and though Marmaduke never took to himself any credit, because he believed he had been only doing his duty to a kind and considerate master—Marmaduke could not but perceive that the tone in which he was spoken to was more and more friendly; and the thought *did* sometimes pass through his mind, that he might become the master in that very shop where he had entered so poor and young a servant. And if it were ever so, I would "put things straighter," he said to himself, and spend some money in improving the shop's appearance, and making it more attractive to customers.

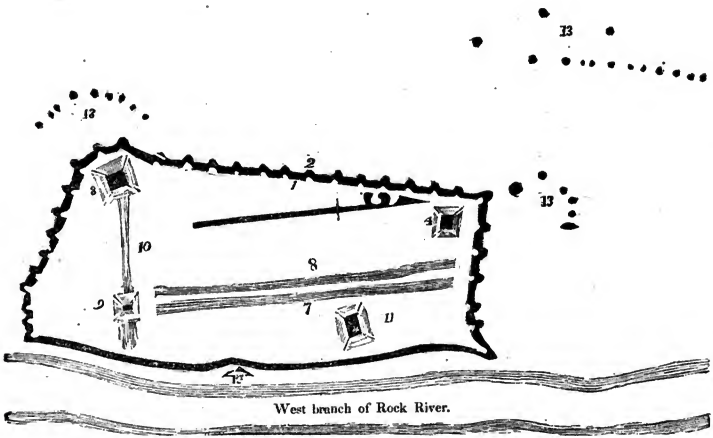
'One evening when the chemist was unwell, and Marmaduke had been counselling him to use a prescription which had been very much praised by the customers of the shop for curing the complaint under which he was suffering, he said to Marmaduke, "Give me your hand, boy! I have long intended to tell you how well pleased I have been with your conduct ever since you came to me. I have always admired your love of order, your thoughtfulness and prudence. You have been obedient to me, and well behaved to my customers. Now I want a little rest, and I mean to give you a part of my business, and if you conduct it well, in a few years, perhaps, I shall leave it wholly to you. You have improved it already, and will, I dare say, improve it more. By my business I have been made comfortable through life, and it has given me more means of comfort than I shall ever want. But it will be a great comfort, in addition, if I live to see the business thrive under your care. At all events, I shall make the experiment."

'Marmaduke Method's name was soon added to the firm, and inscribed in gold letters over the door of the shop. I don't tell you with how much pride Marmaduke looked up to see the painter changing the inscription; but his pride had in it nothing that did him injury, or injured anybody else. It was realizing to himself a dream, in which he had once thought it presumptuous, almost criminal, to indulge. But now that his orderly character, and wish to set "all things straight" had full play; the changes he introduced were such as excited every body's attention, though nobody called them rash or improper. It was not long before the chemist's portion of profits of the business were really larger than when he had the management of it, so that without any detriment to himself he had done Marmaduke a most important service. And this, my children, is often the case with virtuous actions. They benefit the person served, and that without any sacrifice to the virtuous person.

'At this time the infirmities of age grew upon Marmaduke's father. He had been long dependent upon his son for much of his support, and he was now taken into the house, and made of some use

by "keeping things straight;" for these words did not go out of Marmaduke's mind in his prosperity. "I owe every thing to this," he would repeat to the lads, of whom there were now several who received their orders from him, "I don't give you many lessons, but I say, keep things straight."

'The rest of Mr. Marmaduke Method's history may be soon told. He married; had several children; taught them the lessons that he had found so useful; saw several of them happily settled; and at last died full of riches and honors; and his will contained these remarkable words, "By attention to order I rose from poverty to opulence. By it I prevented loss; by it I amassed gain. After my death, let me be put into my coffin in an orderly way; let me be carried by six orderly poor people, and followed by my friends and family in due order, to a clean, orderly, brick-walled grave; and there let me be laid down and 'placed straight,' waiting the orders of my Maker from above."'



Citadel of Aztalan, in Wisconsin Territory.

RUINS OF AZTALAN.

Some account of these ruins may be found on pages 217 and 271. They were discovered, it is said, during the Black Hawk war, in 1832. Little or no notice, however, was taken of them at that time, owing probably to their being in a part of the country in the possession of the Indians. Within a few months, however, considerable interest has been awakened in the vicinity respecting them, and we are enabled, from the Chicago American and Milwaukee Advertiser, to give our readers some statements, which we think may be relied on. Mr. N. F. Hyer, of Milwaukee, has surveyed them, and the results of his surveys have been published in those papers.

Figure 1 represents the brick wall, which at the base is twenty-three feet wide, four or five feet high, and eighty-four rods in extent. 2. Buttresses, twenty-three feet wide, and extending beyond the wall seventeen feet. 3. A square mound or plain, fifteen feet high, and fifty-three feet square on top. 4. Mound, or elevated plain, similar to No. 3, except on the top; 5 refers to a cellar three or four feet deep, and 6 to a stairway, in figure 4, which our engraver found difficult to delineate accurately, and which, therefore, have been left out; 7 and 8 are parallel ridges of two feet in height, including a smooth plain, or road, and extending through the interior of the fort. 9. Square mound, with high ground leading to the river. 10. Ridge connecting mounds, or what might have been towers. 11. Plain, with slight elevation. 12. The termination of a sewer, about three feet below the surface, and arched with stone. 13. Mounds, varying in size from three to twenty-five feet in height, and from one and a half to fourteen rods in circumference. Besides the mounds which appear on the plat, there are many others, of various sizes, to the northwest.

The diagram is on a scale of 396 feet to an inch, and, Mr. Hyer says, 'is intended to represent some of the ruins of an ancient city, which we have taken the liberty to call Aztalan, which name we find in the writings of Baron Humboldt; from which it appears "the people inhabiting the vale of Mexico, at the time the Spaniards overran that country, were called Azteeks or Aztekas, and were, as the Spanish history informs us, usurpers, having come from the North, from a country which they called Aztalan."

'This country of Aztalan, Baron Humboldt says, "we must look for, at least north of the

forty-second degree of latitude." He comes to this conclusion from an examination of the Mexican or Azteka manuscripts, which were made of a certain kind of leaves and of skins prepared; on which an account, in painted hieroglyphics or pictures, was given of their migration from Aztalan to Mexico, and how long they halted at certain places, which in the aggregate amounts to four hundred and sixteen years; and that they commenced their journeying during the eighth century.

'These ruins are situated on the west side of the west branch of Rock river, in the town of Jefferson, in Jefferson county, in the Territory of Wisconsin, and directly west of Milwaukee; in town seven, range fourteen east, in the midst of a most delightful country.'

Mr. Hyer made an unsuccessful attempt to visit these ruins early last season. He was more successful in October, when he drew an imperfect sketch, merely from observation. 'About the first of January, 'he says,' a settlement having been commenced there, and a good winter road made, I again, in company with other friends, visited the place, prepared with compass, chain, and pickaxe, to make more thorough examination and accurate survey. We succeeded very well in making a survey of the surface about the ruins of the citadel, and obtained numerous specimens of the brick of which the walls were made; but the severity of the season prevented our pursuing our researches so extensively as we intended; and indeed we were prevented entirely from examining the outer bounds of the city. I have therefore confined this description to what appears to have been the citadel, which encloses about twenty acres; the wall on the north end is thirty-six rods in length, eighty-four rods on the west side, and forty-two on the south. This appears to have been built for military purposes, and by a people far more advanced in civilization and the arts, than the Indian race ever appear to have been; and I am not prepared to say that they were ignorant of the advantages of commerce, for the stream on which their town was built is now navigable for steamboats of a light draught, to this place from the Mississippi.

'The walls were probably three times as high as they now are, and as they are decayed and crumbled down, now appear much wider than when they were built. Besides what is described in the interior, is the appearance of numerous cellars; and besides the mounds or tumuli here described, there are in the vicinity several hundred; and on the top of every eminence there is one or more mounds, which appear to have been places of "look out."

'There is much here to indicate that this has once been the location of an ancient *walled city*. But of this fact I am not fully satisfied, yet one thing is certain, that this section of country has been densely populated; and from present indications the time is not far distant when it will be so again; but we are determined to preserve these ruins from being *ruined*.'

We may well ask, after all, who reared the walls of this city of the forest? When was it built? What were the character, employments, and habits of the people? They have passed away. These ruins speak to us of generations of men who had made considerable attainments in the arts of civilization, but their history is involved in obscurity. We learn little or nothing respecting them but from the ruins which show that they once existed. Conjectures may be made, but we want more knowledge, in order to arrive at definite conclusions respecting them. We are very glad of the determination to preserve these ruins from being *ruined*. We hope the good sense of the people in that section of the country will not suffer a Vandal spirit to demolish them. We talk of splendid ruins of cities in the East; Balbec, Thebes, Carthage, and the Pyramids, are visited as places worthy the high admiration of travellers. They are magnificent ruins; but there is nothing among them which possesses any more interest for an American than the ruins of Aztalan. If preserved, they will be visited for generations to come by the scientific traveller, the historian, and the antiquarian; and we trust that they will serve, in connexion with discoveries which will yet be made of other ruins, to throw some light upon the history of those interesting people who have formerly inhabited the immense region of the West. For ourselves, we should look upon these remains of a once powerful and greatly civilized nation with as much or more interest than we should upon the vast prairies, clear streams, majestic forests, and lofty mountains of that part of our country which is rapidly growing, and destined ere long, not only to wield immense influence in the councils of the nation, but to become the most interesting to the traveller.

S.

THE BROTHERS.

BY C. SPRAGUE.

Written after the two had been engaged in removing the ashes of their dead brothe s to a new place of sepulture.

We are but two—the others sleep
Through Death's untroubled night;
We are but two—O let us keep
The link that binds us, bright.

Heart leaps to heart—the sacred flood
That warms us is the same:
That good old man—his honest blood
Alike we fondly claim.

We in our mother's arms were locked—
Long be her love repaid;
In the same cradle we were rocked,
Round the same hearth we played.

Our boyish sports were all the same,
Each little joy and woe:—
Let manhood keep alive the flame,
Lit up so long ago.

We are but two—be that the band
To hold us till we die
Shoulder to shoulder let us stand,
Till side by side we lie.

Ruins of Balbec.

BALBEC.

This city, of which some account has been given in our second volume, was visited by Maundrell, in 1697; and the accompanying engraving represents its appearance at that time. It was then but little else than splendid ruins, and the changes which have since taken place have robbed it of much which was then interesting. Still there is so much which is beautiful and grand, and which every traveller feels pleasure in contemplating, that we shall be well rewarded for carefully reading what is known respecting these wonderful works of human art and remains of ancient grandeur.

Balbec, the ancient city of the sun, (Heliopolis) is situated in a fertile valley at the foot of Antilibanus, forty miles from Damascus. According to Mr. Jones, who visited the place in 1834, the ruins are at one side of the present village or town of Balbec, a miserable place, of a few hundred hovels, protected by a low wall, and in no wise diverting the attention of the traveller as he approaches; its squalid appearance, perhaps, heightens their effect. In ancient times the temples, the ruins of which are special objects of interest, stood on an artificial platform of stone, raised on the plain of Cœlo-Syria to a height varying, according to the inequalities of the plain, from thirty to forty feet. The platform was adapted in shape to the structures upon it, the complete length being 900 feet, and the greatest width about 420. On the east side, which was the place of entrance, was a flight of about fifty steps, 180 feet in length, at the top of which was a range of twelve columns, each fifty-one inches in diameter, with an interval of nine and a half feet between. The visiter passed between them into a covered vestibule, 250 feet in length by 36 in width. This was adorned at the extremities with square columns, while the side opposite to him was ornamented with half-columns and niches, and, above these, with tabernacles; both the latter being occupied by statues. Crossing this vestibule, he might leave it either by a large central passage, or by a smaller one at each side of this, and he would then find himself in an open hexagonal court, 150 feet wide, and 200 at its greatest length. This court had at its sides, on his right and left, four *exedræ* or chambers for schools, open in front, and ornamented each with four columns and pilasters; the intervals between these were taken up with chambers for the high priests, and with niches for the statues. The whole court was thus surrounded by columns and pilasters, except in front. In this part was a passage seventy-eight feet wide, with two side passages, giving admittance into the great court of the temple. This court was 380 feet square, and, except in the front and at the entrance, was surrounded by square *exedræ*, alternating with others of a semicircular shape; the former had each four columns and two pilasters, and the latter two columns with pilasters at their front. At the entrance into

this court were colossal niches, and at the angles were chambers for the priests.

The great temple which stood at the further end of this court and facing the visiter, as he entered, was 290 feet long and 160 feet wide, with ten columns at each end, and nineteen at each of the sides, which were seven feet in diameter, and eight feet and ten inches distant from each other. Three rows of stones, supporting the platform on which this temple stands, are still remaining. In the lowest tier they measure severally 35, 33, 32, 31, and 38 feet in length; with a height of thirteen feet, and a breadth of ten feet five inches, exclusive of their mouldings. In the second row, which is twenty-seven feet from the ground, they are generally of the same size, but here are three measuring 64, 64, and 63 feet in length, with their other dimensions to correspond. In the quarry on the side of the mountain adjoining this, is a stone cut loose, that measures seventy feet long, fourteen wide, and fourteen feet five inches in depth, whose weight is estimated at 1,135 tons.

Of his colossal temple, nine of the columns of one side, with a portion of their entablature, is all that now remains; its foundations may still be traced, and a few huge fragments are scattered about; but the great columns standing thus naked and alone produce a very powerful effect. Of the ranges of exedræ, columns, &c. which formed the sides of the square and hexagonal courts, and of the vestibule, there are still large remains; but so broken and defaced by time and human violence, that it is often difficult to ascertain their shape or proportions. The ground is covered over with these ruins.

It is sad to walk over this great platform and mark the desolations that have been wrought amid such architectural beauty. A few yards, however, from this is a temple of the same age, still almost perfect, and probably the most splendid specimen of the Corinthian order of architecture that the world now can boast. It stands also on a platform of stone, and was reached by a stairway of thirty-two steps. It also faces the east, has a range of columns quite round, and has also another range at the front forming a vestibule; the length is 280, and breadth 122 feet. There were fifteen columns on each side and eight in front, (the angular columns counted twice,) or forty-two in all; to which we are to add eight for the vestibule, six in front, and one at each side. Thirty-three of these are now entire and erect, and nine in a ruinous condition. The sides of the interior were also ornamented with half-columns, six on each side; between these were niches for statues, with ornamented arched coverings, and above the niches were tabernacles also, for statues. The further end was occupied by a platform, reached by a broad flight of fifteen steps, and on this was placed the statue of their divinity. The interior is in a tolerably good state of preservation. The ornaments are exuberant and exceedingly rich; the doorway is decorated with vines and foliage, amid which children are sporting; the pannels of the ceiling are occupied by figures of gods and goddesses in relief; in short, Sculpture has here joined her graver sister, Architecture, and they have worked together harmoniously, and have produced, what is seldom produced, a building where great exuberance of ornament is united with delicacy, and chasteness, and simplicity. This building is, indeed, a gem in the art.

South-eastward from these, at the distance of about 300 yards, is a pretty little thing, though of more objectionable taste. It is a temple, circular within, the diameter being thirty-two feet. It is on an ornamented platform, and the floor was reached by a flight of about fifteen steps; the front presents this flight of steps and a large doorway, with two Corinthian columns at each side. The rest of the exterior is formed by a succession of great niches for statues, five in number, with a Corinthian column at the sharp angles between them. The exterior diameter of the building from column to column, is sixty-four feet. The interior is highly ornamented, and has a double row of half columns one above the other, one range Ionic, the other Corinthian. Winding around its foundations, and murmuring amid its broken, prostrate columns, runs the clear brook from the fountain of Rosalyn. As we listened to the sound of its waters, we could almost imagine it to be the voice of pure and holy Nature chanting the dirge of the unhallowed worship that once was prevalent here.

Such is an account of some of the ruins, splendid ruins of a city, respecting which one can glean hardly any information from books; though we are informed that Theodosius converted the great and famous temple into a Christian church. Who knows the cruelty which some tyrant may have imposed upon his subjects, the exactions he may have made, the sufferings which they may have endured, and the lingering deaths which probably were the portion of those who were called to raise these mighty works. The prince who reared them has passed away; nothing is known of him, but by the ruins which speak of the cruelty, and degradation, and inhumanity, which were common in the days when the world was buried in heathen ignorance. S.

LAFAYETTE'S FIRST VISIT TO AMERICA.

When Mr. Sparks, the editor of various works on American history and biography, was in France, he spent several weeks with Lafayette, at his seat at La Grange. He commonly passed two or three hours with him in the morning, and then he retired to write down the information which he obtained from him. All the events of the American Revolution passed in review before them. Lafayette's memory as to dates and events was very remarkable, as was found upon comparing his statements with historical records; and when there was a scruple of doubt on any point, he would never hazard an assertion. The following extract from Mr. Sparks's edition of Washington's Writings, aside from Mr. Sparks's well-known habits of strict accuracy, is interesting, as containing statements made by Lafayette himself, and from its having been written under his roof at La Grange.

Lafayette was but eighteen years old, when he

first conceived the project of joining the Americans, and risking his fortune and reputation in their cause. In the summer of 1776 he was stationed on military duty at Metz, being then an officer in the French army. It happened at this time, that the Duke of Gloucester, brother to the king of England, was at Metz, and a dinner was given to him by the commandant of that place. Several of the principal officers were invited, and among others Lafayette. Despatches had just been received by the duke from England, and he made their contents the topic of conversation. They related to American affairs, the recent declaration of independence, the resistance of the colonists, and the strong measures adopted by the ministry to crush the rebellion.

The details were new to Lafayette. He listened with eagerness to the conversation, and prolonged it by asking questions of the duke. His curiosity was deeply excited by what he heard, and the idea of a people fighting for liberty had a strong influence upon his imagination. The cause seemed to him just and noble, from the representations of the duke himself; and before he left the table the thought came into his head, that he would go to America, and offer his services to a people, who were struggling for freedom and independence. From that hour he could think of nothing but this chivalrous enterprise. He resolved to return to Paris and make further inquiries.

When he arrived in that city, he confided his scheme to two young friends, Count Segur and Viscount de Noailles, and proposed that they should join him. They entered with enthusiasm into his views; but, as they were dependent on their families, it was necessary to consult their parents, who reprobated the plan and refused their consent. The young men faithfully kept Lafayette's secret. His situation was more fortunate, as his property was at his own disposal, and he possessed an annual revenue of nearly two hundred thousand livres.

He next explained his intention to the Count de Broglie, who told him that his project was so chimerical and fraught with so many hazards, without a prospect of the least advantage, that he could not for a moment regard it with favor, or encourage him with any advice, which should prevent him from abandoning it immediately. When Lafayette found him thus determined, he requested that at least he would not betray him, for he was resolved to go to America. The Count de Broglie assured him, that his confidence was not misplaced; but, said he, 'I have seen your uncle die in the wars of Italy, I witnessed your father's death at the battle of Minden, and I will not be accessory to the ruin of the only remaining branch of the family.' He then used all his powers of argument and persuasion to divert Lafayette from his purpose, but in vain. Finding his determination unalterable, the Count de Broglie said, as he could render him no aid, he would introduce him to the Baron de Kalb, who he knew was seeking an opportunity to go to America, and whose experience and counsels might be valuable.

Through this channel Lafayette procured an interview with Silas Deane, who explained to him the state of things in America, and gave him encouragement. Deane was formal, spoke little French, and the conversation was not very copious. As he had not yet been acknowledged in any public character, and was surrounded by the British ambassador's spies, it was thought advisable, that, to avoid suspicion, no more interviews should take place. The affair was afterwards managed by the intervention of Mr. Carmichael. An agreement was at length concluded, by the terms of which the Marquis de Lafayette was to join the American service, and to receive from Congress the appointment of major-general. A vessel was about to be despatched with arms and other military supplies for the American army, in which it was proposed he should take passage.

At this juncture came the news of the evacuation of New York, the loss of Fort Washington, the retreat across Jersey, and the numerous disasters attending the campaign. The friends of America were in despair. The plan of sending a vessel with munitions of war was abandoned. Lafayette was advised to give up the scheme, and not to make so hopeless a sacrifice in an adventure, that at best must end in utter disappointment. These representations and prospects, so far from disheartening him, rather increased his ardor in the pursuit of his object. 'My zeal and love of liberty,' said he, 'have perhaps been hitherto the prevailing motives; but now I see a chance for usefulness, which I had not anticipated. I have money; I will purchase a ship, which shall convey to America myself, my companions, and the freight for Congress.' By this time Franklin and Arthur Lee had joined Deane as commissioners. To a proposal so disinterested and generous they could not object; they could only admire the spirit which dictated it; and he hastened immediately to put it in execution.

He entrusted his secret to Dubois-Martin, secretary to the Count de Broglie, whom he despatched to Bordeaux, with instructions to purchase a vessel. This was done; but the vessel wanted repairs, and other preparations were necessary. To prevent discovery during the delay in getting things ready, he took the opportunity to fulfil a previous engagement, which was now claimed by the Prince de Poix, to visit England in company with him. The two friends arrived in London, where they received many marks of civility and attention from the king and persons of rank. It was the policy of the ministers at this time to make it appear, that a good understanding existed between the English and French courts, and the visit of these young noblemen was a circumstance favorable to that end. They stayed about three weeks in London, when Lafayette received intelligence that his vessel was ready at Bordeaux, and he returned to France; but not without some displeasure on the part of the Marquis de Noailles, the French ambassador in London, who thought his departure too abrupt and unceremonious. The British King and ministry always supposed, that the Marquis de Noailles was acquainted with Lafayette's design to go to America during this visit.

But this was a mistake. Lafayette has often been heard to say, that neither the Marquis de Noailles nor any other individual in London had a knowledge of his purpose. British writers have also charged him with having gone there to obtain information, which should be useful to the Americans. This suspicion is equally without foundation. So far from taking advantage of his situation for such a purpose, his delicacy restrained him from making such a use of his opportunities, as would, under other circumstances, have been particularly agreeable to him. It was on this ground alone, that he declined accepting a proposal to visit the naval armament at Portsmouth, which was then fitting out for America.

He did not enter Paris on his return, but went to Passy, where he remained concealed, and saw only Segur and a very few other friends. After three days he set off for Bordeaux; but on arriving there he found that his vessel was not entirely ready. He soon discovered, also, that his precautions had not been effectual, that his departure was known at Versailles, and that an arrest by order of the king would immediately follow him. He adopted the only mode of escape, that of setting sail without delay. He proceeded to Passage, the nearest port in Spain, where he proposed to wait for his ship's papers. He had hardly reached that harbor, when two officers arrived by land from Bordeaux, with a *lettre de cachet* from the king prohibiting his departure. At the same time came letters from the ministers and his family, insisting on his return. Lord Stormont's spies had detected his movements, and that ambassador had communicated the intelligence to Lafayette's father-in-law. The *lettre de cachet* commanded him to repair to Marseilles, and there wait for further orders. The letters from the ministers were severe, charging him with violating his oath of allegiance to the king, and of rashly committing an act, which might involve the government with other powers. His family censured him in a tone of pointed reprimand, assuring him that his conduct, if persisted in, would ruin both them and himself. It must be observed, however, that his wife did not join in this outcry; she approved of his enterprise from the beginning, and threw no obstacles in his way. The family were preparing for a tour in Italy, and the design was, that he should meet them at Marseilles, go with them on this tour, and thus be diverted from his American project.

From Passage he was obliged to return with the officers to Bordeaux, where he reported himself to the commandant. He wrote to the ministers and his friends, replying to their charges, and vindicating himself in the best manner he could. He reminded them, that an officer in the king's Irish regiment had been permitted to go over and join the British forces, and added that he saw no reason why the same privilege should not be allowed to other officers in regard to the Americans, who were an independent people, and contending for just principles. Indeed, this had already been done in the case of Duportail, and three other engineers belonging to the king's army, who had obtained special permission to enter the American service. These reasons and precedents he thought would justify him in asking the same permission. To his family he wrote, that his resolution was fixed, and he hoped they would aid his views. As to his oath of allegiance, he observed to some of his correspondents, that when the ministers should be faithful to their people, they might with a better grace talk about a violation of an oath to the government. This hint got to the ears of the ministers and gave offence.

In short, he had little hope of succeeding in his petition; and he accordingly wrote to M. Cogny, a particular friend very intimate at court, requesting him to watch carefully what passed, and should he be convinced a prohibition would be issued against his American plan, to let him know it with all possible despatch. He sent a trusty courier to Versailles, who speedily came back with a letter from Cogny informing him, that there was much excitement against him at court, that the British ambassador had made strong representations, and there was not the remotest prospect of his receiving a favorable reply.

Lafayette lost no time in taking the course, on which he had already resolved. He intimated to the commandant, that he would proceed to Marseilles, and commenced the journey. An officer by the name of Mauroy, who wished to visit America, was his companion. They entered the carriage together, but as soon as they left the environs of Bordeaux, Lafayette disguised himself in the dress of a courier, mounted a horse, and rode forward to procure relays at the post-houses. They soon diverged from the road to Marseilles, and took the direction to Bayonne. In that city they were obliged to stop for two or three hours. While Mauroy executed some important commission of business, Lafayette lay on the straw in the stable. Fresh horses were procured, and they continued their route, Lafayette still preserving the costume and character of a courier. At the little village of St. Jean de Luz, while calling for horses, he was detected by the daughter of the man who kept the post-house. She had seen him a few days before on his way from Passage to Bordeaux. He made a signal to the girl to keep silence, which she understood; and when Lafayette's pursuers came up, and inquired if such a person had passed, she was faithful to the signal, replying that a carriage had gone along, but it contained no such person as they described. This answer occasioned much uncertainty as to the object of their pursuit, and it is believed to have been the cause of his not being overtaken by them before he reached his vessel at Passage. A favorable wind wafted him quickly to sea. Baron de Kalb, and eleven other officers of different ranks seeking service in America, constituted his retinue.

His time was employed on the voyage, as far as a severe attack of sea-sickness would permit, in studying the English language, and reading books on military tactics. The ship's papers were taken out for the French islands in the West Indies, and the captain sailed in that direction. While on the voyage Lafayette told him, that it was his intention to run directly for the coast of America. This

was promptly declined by the captain, on the ground that the papers protected the ship only to the French islands, and should they be taken by the English in attempting to go into an American port, they would all inevitably be sent prisoners to Halifax, and detained in captivity no one could tell how long. This was a dilemma, which Lafayette had not anticipated, and he finally told the captain that the vessel was his property, that every person on board ran an equal risk, that he was determined at all hazards to sail by the shortest course to the American coast, and that, if he refused to put the vessel upon that track, he would deprive him of the command and give it to the next officer. The captain acceded, but with a reluctance, which made Lafayette suspect there were other motives besides personal apprehension; and he found, on inquiry, that the captain had goods in the ship to the amount of eight thousand dollars. When this was known he offered a pledge of security, that in case they should be captured, and the cargo lost, he would pay this amount to the captain, although the goods had been put on board without his authority. He also feared, what proved to be true, that orders would be sent to the West Indies to arrest them.

At some distance from the coast a privateer was described making towards them. It was supposed to be English, and hasty preparations were made for defence; but it turned out to be American, and no molestation was offered. Land was soon discovered, and they approached the shore near Georgetown in South Carolina, having fortunately escaped two British cruisers. The same strong north-easterly wind, which brought the French vessel to the coast, had driven the cruisers to the south, and thus left an open passage for that vessel, which otherwise would probably have been captured.

It was dark before they came so near the shore as to be able to land. Lafayette and some of the officers entered the ship's boat, which was rowed to the beach. Here they debarked, and a distant light served to guide them. When they arrived near the house whence the light proceeded, the dogs growled and barked, and the people within supposed them to be a party of marauders from the enemy's vessels. Before gaining admittance, it was demanded of them who they were and what they wanted. Baron de Kalb was their interpreter, he having before been in America, and acquired some facility in speaking the English language. At length suspicions were removed, and the strangers were received with a cordial welcome and a generous hospitality. Lafayette retired to rest, rejoiced that he had at last attained the haven of his wishes, and was safely landed in America beyond the reach of his pursuers. The morning was beautiful. The novelty of every thing around him, the room, the bed with musquito curtains, the black servants who came to ascertain his wants, the beauty and strange appearance of the country as he saw it from his window, clothed in luxuriant verdure, all conspired to produce a magical effect, and to impress him with indescribable sensations. He found himself in the house of Major Huger, a gentleman not more remarkable for his hospitality, than for his worth and highly respectable character. Major Huger provided horses to convey him and his companions to Charleston. The vessel likewise went into Charleston harbor. A letter written by Lafayette to his wife will explain his situation and feelings at this time.

'Charleston, 19 June, 1777.

'My last letter to you, my dear love, has informed you, that I arrived safely in this country, after having suffered a little from sea-sickness during the first weeks of the voyage; that I was then, the morning after I landed, at the house of a very kind officer; that I had been nearly two months on the passage, and that I wished to set off immediately. It spoke of every thing most interesting to my heart; of my sorrow at parting from you, and of our dear children; and it said, besides, that I was in excellent health. I give you this abstract of it, because the English may possibly amuse themselves by seizing it on its way. I have such confidence in my lucky star, however, that I hope it will reach you. This star has befriended me, to the astonishment of every body here. Trust to it yourself, and be assured that it ought to calm all your fears. I landed after having sailed several days along a coast, which swarmed with hostile vessels. When I arrived, every body said that my vessel must inevitably be taken, since two British frigates blockaded the harbor. I even went so far as to send orders to the captain, both by land and sea, to put the men on shore and set fire to the ship, if not yet too late. By a most wonderful good fortune, a gale obliged the frigates to stand out to sea for a short time. My vessel came in at noon-day, without meeting friend or foe.

'At Charleston I have met General Howe, an American officer now in the service. The governor of the State is expected this evening from the country. All with whom I wished to become acquainted here, have shown me the greatest politeness and attention. I feel entirely satisfied with my reception, although I have not thought it best to go into any detail respecting my arrangements and plans. I wish first to see Congress. I hope to set out for Philadelphia in two days. Our route is more than two hundred and fifty leagues by land. We shall divide ourselves into small parties. I have already purchased horses and light carriages for the journey. Some French and American vessels are here, and are to sail together to-morrow morning, taking advantage of a moment when the frigates are out of sight. They are armed, and have promised me to defend themselves stoutly against the small privateers, which they will certainly meet. I shall distribute my letters among the different ships.

'I will now tell you about the country and its inhabitants. They are as agreeable as my enthusiasm had painted them. Simplicity of manners, kindness, love of country and of liberty, and a delightful equality every where prevail. The wealthiest man and the poorest are on a level; and, although there are some large fortunes, I challenge any one to discover the slightest difference between the manners of these two classes respectively to-

wards each other. I first saw the country life at the house of Major Huger. I am now in the city, where every thing is very much after the English fashion, except that there is more simplicity, equality, cordiality, and courtesy here than in England. The city of Charleston is one of the handsomest and best built, and its inhabitants among the most agreeable, that I have ever seen. The American women are very pretty, simple in their manners, and exhibit a neatness, which is every where cultivated even more studiously than in England. What most charms me is, that all the citizens are brethren. In America, there are no poor, nor even what we call peasantry. Each individual has his own honest property, and the same rights as the most wealthy landed proprietor. The inns are very different from those of Europe; the host and hostess sit at table with you, and do the honors of a comfortable meal; and, on going away, you pay your bill without higgling. When one does not wish to go to an inn, there are country houses where the title of a good American is a sufficient passport to all those civilities paid in Europe to one's friend.

'As to my own reception, it has been most agreeable in every quarter; and to have come with me secures the most flattering welcome. I have just passed five hours at a grand dinner, given in honor of me by an individual of this city. Generals Howe and Moultrie, and several officers of my suite, were present. We drank healths and tried to talk English. I begin to speak it a little. Tomorrow I shall go with these gentlemen to call on the governor of the State, and make arrangements for my departure. The next day the commanding officers here will show me the city and its environs, and then I shall set out for the army.

'Considering the pleasant life I lead in this country, my sympathy with the people, which makes me feel as much at ease in their society as if I had known them for twenty years, the similarity between their mode of thinking and my own, and my love of liberty and glory, one might suppose that I am very happy. But you are not with me; my friends are not with me; and there is no happiness for me far from you and them. I ask you, if you still love me; but I put the same question much oftener to myself, and my heart always responds, Yes. I am impatient beyond measure to hear from you. I hope to find letters at Philadelphia. My only fear is, that the privateer, which is to bring them, may be captured on her passage. Although I suppose I have drawn upon me the special displeasure of the English, by taking the liberty to depart in spite of them, and by landing in their very face, yet I confess they will not be in arrears with me, should they capture this vessel, my cherished hope, on which I so fondly depend for letters from you. Write frequent and long letters. You do not know the full extent of joy with which I shall receive them. Embrace Henrietta tenderly. May I say embrace tenderly our *children?* The father of these poor children is a rover, but a good and honest man at heart; a good father, who loves his family dearly, and a good husband, who loves his wife with all his heart.

'Remember me to your friends and my own, to the dear society, once the society of the court, but which by the lapse of time has become the society of the *Wooden Sword*. We republicans think it all the better. I must leave off for want of paper and time; and if I do not repeat to you ten thousand times that I love you, it is not from any want of feeling, but from modesty; since I have the presumption to hope, that I have already convinced you of it. The night is far advanced, and the heat dreadful. I am devoured by insects; so, you see, the best countries have their disadvantages. Adieu.

'LAFAYETTE.'

All things being in readiness, the party left Charleston and travelled to Philadelphia, with as much expedition as the extreme heat of the weather and the badness of the roads would permit. They visited Governor Caswell in North Carolina, and stopped a short time at Annapolis in Maryland. Here they became acquainted with Major Brice, to whom they had a letter from Carmichael, and who was afterwards Lafayette's aid-de-camp. The vessel had been left at Charleston, where it was loaded with rice for the French market. It foundered in going out of the harbor, and both the vessel and cargo were lost.

When Lafayette arrived in Philadelphia he put his letters into the hands of Mr. Lovell, Chairman of the Committee of Foreign Affairs. He called the next day at the Hall of Congress, and Mr. Lovell came out to him and said, that so many foreigners had offered themselves for employment, that Congress was embarrassed with their applications, and he was sorry to inform him there was very little hope of his success. Lafayette suspected his papers had not been read, and he immediately sat down and wrote a note to the President of Congress, in which he desired to be permitted to serve in the American army on two conditions; first, that he should receive no pay; secondly, that he should act as a volunteer. These terms were so different from those demanded by other foreigners, and presented so few obstacles on the ground of an interference with American officers, that they were at once accepted. His rank, zeal, perseverance, and disinterestedness overcame every objection, and he was appointed a major-general in the American army more than a month before he had reached the age of twenty.

Washington was expected shortly in Philadelphia, and the young general concluded to wait his arrival before he went to head-quarters. The first introduction was at a dinner party, where several members of Congress were present. When they were about to separate, Washington took Lafayette aside, spoke to him very kindly, complimented him upon the noble spirit he had shown and the sacrifices he had made in favor of the American cause, and then told him, that he should be pleased if he would make the quarters of the commander-in-chief his home, establish himself there whenever he thought proper, and consider himself at all times as one of his family; adding, in a tone of pleasantry, that he could not promise him the luxuries of a court, or even the conveniences, which his former habits might have rendered essential to

his comfort, but, since he had become an American soldier he would doubtless contrive to accommodate himself to the character he had assumed, and submit with a good grace to the customs, manners, and privations of a republican army. If Lafayette was made happy by his success with Congress, his joy was redoubled by this flattering proof of friendship and regard on the part of the commander-in-chief. His horses and equipage were immediately sent to camp, and ever afterwards, even when he had the command of a division, he kept up his intimacy at head-quarters, and enjoyed all the advantages of a member of the General's family. The day after the dinner, Washington inspected the fortifications in the Delaware river, and invited Lafayette to accompany him.

Being now in the army, he continued with it as a volunteer, though without any command, till the battle of the Brandywine. He there engaged in the hottest part of the action, exposed himself to danger, and exhibited a conspicuous example of coolness and courage. While the troops were retreating in disorder, he dismounted, entered the ranks, and endeavored to rally them. As he was performing this service a musket-ball passed through his leg; but the wound did not retard his efforts, till his aid told him, that the blood was running from his boot, and then he mounted his horse. He met a surgeon in the rear, who put a slight bandage round his leg, and he rode to Chester. The soldiers, in the mean time, were retreating in a hurried and straggling manner; and, regardless of himself, his first precaution was to place a guard near the bridge, at the entrance of the village, with orders to stop all the retreating soldiers at that place. His wound was then dressed, and the next morning he was taken to Philadelphia. The following letter to his wife was written the day after the action.

'Philadelphia, 12 September, 1777.

'I write you a few words, my dear love, by some French officers, who came over with me, but who, not receiving any appointment in the army, are about returning to France. I begin by telling you, that I am well, because I must end by telling you that we fought yesterday in good earnest, and that we were not the stronger party. The Americans, after a long and brave resistance, were at last routed. As I was attempting to rally them, the English honored me with a musket-ball, which wounded me slightly in the leg; but this is nothing; the ball touched neither bone nor artery, and I shall escape without further inconvenience, than having to keep my bed for some time, a thing which puts me much out of humor. I hope you will not be alarmed; indeed this is a reason why you should be less so than before, since it keeps me from the field for some time, as I intend to take good care of myself; be very sure of it.

'I think this affair will lead to unpleasant consequences, which we must try to repair. You must have received many letters from me, unless the English bear the same spite to my letters as to my legs. I have as yet received only one from you, and I long for news. Adieu. I am forbidden to write longer at present. For some days past I have not had time for sleep; the last night was employed in our retreat, and in my journey to this place, where I am very well taken care of. Let my friends know that I am well. Many tender regards to Madame d'Ayen; many compliments to my sisters. The officers will depart shortly; they will see you; how happy they are. Good night; I love you more than ever.

'LAFAYETTE.'

From Philadelphia he proceeded to Bristol. Mr. Henry Laurens on his way to Yorktown, after the adjournment of Congress, took the route through Bristol, and conveyed Lafayette in his carriage to Bethlehem. This act of kindness was long remembered. When Laurens was a prisoner in the tower of London, the Marchioness de Lafayette wrote a touching letter in his behalf to the Count de Vergennes, recounting his deeds of humanity and benevolence to the Marquis, and soliciting the aid of the French court to procure his release. Lafayette remained at Bethlehem about two months, till his wound was sufficiently healed to enable him to join the army, and a few days afterwards he was placed at the head of a division.

THE HAPPIEST TIME.

BY M. A. BROWNE.

When are we happiest? When the light of morn
Wakes the young roses from their crimson rest;
When cheerful sounds upon the winds are borne,
Till man resumes his work with blither zest;
While the bright waters leap from rock to glen,
Are we the happiest then?

Alas, those roses! they will fade away,
And thunder-tempests will deform the sky;
And summer heats bid the spring buds decay,
And the clear sparkling fountain may be dry;
And nothing beautiful adorn the scene,
To tell what it hath been.

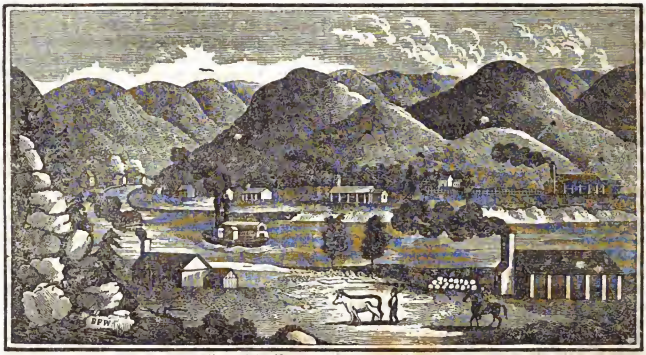
When are we happiest? In the crowded hall,
When fortune smiles, and flatterers bend the knee?
How soon, how very soon such pleasures pall!
How fast must falsehood's rainbow coloring flee!
Its poison flow'rets brave the sting of care:
We are not happy there.

Are we the happiest when the evening hearth
Is circled with its crown of living flowers;
When goeth round the laugh of artless mirth,
And when affection, from her bright urn showers
Her richest balm on the dilating heart?
Bliss! is it there thou art?

Oh, no! not there. It would be happiness
Almost like heaven's, if it might always be;
Those brows without one shading of distress,
And wanting nothing but eternity;
But they are things of earth, and pass away—
They must, they must decay!

Those voices must grow tremulous with years;
Those smiling brows must wear a tinge of gloom
Those sparkling eyes be quenched in bitter tears,
And, at the last, close darkly in the tomb
If happiness depend on them alone,
How quickly is it gone!

When are we happiest, then? O, when resigned
To whatsoe'er our cup of life may brim;
When we can know ourselves but weak and blind,
Creatures of earth; and trust alone in Him,
Who giveth, in his mercy, joy or pain;
Oh! we are happiest then.



View of the Kenawha Salines, in Virginia.

SALT MANUFACTURE ON THE KENAWHA RIVER.

At the first settling of the Kenawha river, a large Buffalo lick was discovered on the northeast side of the river, about six miles above the mouth of Elk river, and a short distance above the mouth o Campbell's creek, near the margin of the river at low water. Nearly opposite to the lick is a low gap in the ridge, through which the buffalo and deer passed on their way to the lick, in such numbers, that their paths up and down the creek were worn so deep, as to be visible at this day. For a considerable distance round the lick, not only the herbage but the foliage of the trees, as high as the animals could reach, was all eaten up by the buffaloes, after they had drunk of the salt water. If not disturbed by the hunters, they generally remained here two or three days. At this spot, several hollow logs, or *gums*, were found, sunk into the gravel at the margin of the river, and probably placed there by the Indians, as they had every mark of great antiquity. In the same manner, the early settlers sunk gums into the bed of the river, six or eight feet deep, in which was collected a very weak water, and from it they made a little salt for their own use. In the year 1794, Joseph Ruffner, of Shenandoah county, Virginia, bought a tract of 502 acres, including the Buffalo lick; and, in 1795, he moved his family on to the Kenawha. But little was done towards making salt, until the year 1807, when David and Joseph Ruffner, sons of Joseph, bought a tract of land a little above the Buffalo lick, and commenced their operations about one hundred yards above the lick, where there was no appearance of salt water. Having selected a gum, or hollow sycamore trunk, about eighteen feet long and three feet across the cavity, they, with great labor and difficulty, sunk it in the gravel and sand at the margin of the river, to the depth of fourteen feet, down to the smooth sandstone rock which forms the bed of the river, and is very uniformly found at this depth, up and down the river, as far as any gums have been sunk. The depth of the river, for ten miles above Elk, is uniformly about sixteen feet, and 250 yards wide at low water mark; by which it appears that little if any deposit is made in its bed by the floods from year to year. The lower part of the gravel through which the gum was sunk, for four or five feet, is very hard and tenacious, approaching that state, when gravel beds change into rock. When the gum was fairly settled on the rock, their next attempt was to sink a well or shaft into the rock, of sufficient depth to afford a supply of water; but in this they were foiled, as they could devise no means by which to keep out the water from the river so as to go on with their work. At length, by putting a tight bottom of planks into the gum, and through a hole in the bottom inserting a tube, three inches in diameter, into the rock below, no water could enter but what passed through the tube. Here the process of boring was commenced, by an auger or chisel, passed through the tube, which bored a hole two and a half inches in diameter, the auger and rod, or pole, being fastened by a rope to a sweep pole. When they commenced, they little expected to obtain a supply of water by merely boring a hole in the rock, having never heard of such an attempt before; but in this they were agreeably disappointed. In order to ascertain the quality of the water, they had frequently to stop and clear the hole not only of the water but of the borings. At seventeen feet they struck a vein of salt water, the first indication of which was a bubbling or hissing of the gas in the hole. This water, though requiring 300 gallons to make a bushel of salt, was then thought to be very good. The well was sunk to the depth of twenty-six feet, when they left off boring, the first of October, 1807, and proceeded to the erection of a furnace, of about forty kettles, which went into operation the eleventh of February, 1808, and made about twenty-five bushels of salt a day, which was then worth two dollars a bushel. A small vein of fresh water, that came in a few feet below the top of the well, they contrived to exclude by means of a

wooden tube pushed down into the well, after reaming it out. From this example has arisen the practice of pushing down tin or copper tubes, by the modern well borers, to any desirable depth. Not long after this, William Whitaker obtained salt water, and erected a furnace on the opposite side of the river; and about the same time a well was bored and a furnace erected at the old lick, and several improvements made both above and below this spot. The salt water in the gums, at this early day, usually rose about a foot above the surface of the river at low stages; at high stages the water rose with that of the river, but not quite so high as it was in the river. The salt water was also increased in strength as well as in quantity by a rise in the river. When the wells were only twenty-six feet deep, they afforded water only for two furnaces; but when, in the second year, they were deepened to sixty and ninety feet, the water was sufficient to supply four furnaces of sixty kettles, holding thirty or forty gallons each, making from fifty to sixty bushels of salt every twenty-four hours. To prevent the river, when high, from flowing into the gum, an additional one of eight or ten feet was set upon its top, and the water drawn out of it with a bucket and sweep by the hand. Soon after, pumps were used, worked by horses, one set of pumps raising sufficient to supply two furnaces, which was the usual number attached to each well. The furnaces were about fifty or sixty feet in length, with the same number of kettles set in two rows. The fuel then used was wood. Successive improvements continued to be made, both in the form of the furnaces and in the size and shape of the kettles, until the latter reached the capacity of 150 or 200 gallons each, weighing from 1700 to 1900 pounds, and requiring only five or six for a furnace. These large kettles were used only for boilers, the smaller ones still being continued for graining or crystallizing the salt. After coal came into use for fuel, which was not until the adjacent hills were stripped of their wood, in the year 1819, broad pans of sheet iron were used for boilers. Col. David Ruffner first introduced the use of coal, and his example was soon followed by the other manufacturers, who, at that time, had become numerous. He suffered considerable loss and many disappointments before he could adapt the form of the furnace and the pans to this new fuel. The pans were twelve or fourteen feet long, and three feet eight inches wide, and were placed in the front part of the furnace over the fire, for boilers. These being soon corroded and worn out, cast iron pans were substituted, made of separate pieces and fastened together with screws, the joints being tightened with a cement of cast iron borings. With care, these pans last a long time. The pans used at the present period are about twenty-five feet long and six and a half feet wide, and the length of the furnace from eighty to one hundred feet. The quantity of salt made at the time when they began to use the stone coal furnaces was from 250 to 300 bushels a week. As the furnaces were enlarged, and improved in their structure and management, the quantity increased, until, at the present time, they make in some instances, 900 or 1000 bushels a week. The salt water, as it comes from the wells, is very clear, and of the temperature of the coldest spring water. When it becomes even moderately warm, it begins to turn red, and when saturated by boiling, it is nearly of the color of blood. In this state, it is drawn off into a large trough, called the *brine trough*, placed near the furnace, for the purpose of settling or clarifying. When cool, it becomes perfectly clear, and is then returned into the grainers, where it is boiled down into salt, and lifted out upon a platform, for the purpose of draining off the *bitter water*, or muriate of lime, a very abundant and troublesome component in all the western salines. In the course of eight or ten days, a red sediment, two or three inches in thickness, resembling red paint, forms in the bottom of the brine trough. It is composed principally of a carbonate of iron, held in solution by the carbonic acid gas of the water, and set free on the application of heat. At this period, a large portion of the furnaces have a small steam engine attached for the purpose of raising the water, which contains the more salt the nearer they approach to the bottoms of the wells. The average quantity required to make a bushel of salt, is about seventy gallons. The total amount made in the year 1834, is estimated by the inspector at 1,500,000 bushels; a very great advance from the year 1807.

Within a few years, the manufacture of coarse salt has been commenced, and large quantities are produced, equal in quality to the best Turks Island salt. After the water is evaporated to the state of strong brine and purified, it is drawn off into a long shallow vat, or cistern, and kept at a moderate temperature by the aid of steam, furnished by the boilers, and conducted the whole length of the cistern in a metallic or a wooden pipe. The salt is deposited slowly on the bottom of the vat, in beautiful, four sided, pyramidal crystals, of great purity. It is removed once in eight days, and is then usually about a foot deep, all over the floor of the vat; some vats are several hundred feet in length, and ten or twelve feet in width.

The Kenawha salines present a most interesting and lively scene of activity and business. At intervals of every quarter of a mile, both shores of the river are lined with furnaces, sending forth dense curling volumes of coal smoke. The busy hum of voices, and the rattling of the train wagons along the rail ways, with the bustle of the salt boats, and steamboats, to which the depth of the river affords a safe and pleasant navigation to the upper furnaces, give to this spot all the life and activity of a large city. The accompanying view of the salines, with the outlines of the hills, will assist the reader in understanding both the geology and the situation of this interesting spot.

American Journal.

From the Natural History of Insects.

ICHNEUMONS.

To the numerous tribes of Ichneumons is allotted by nature the task of restraining the superabundance of the rest of the insect world. They were called by the more ancient authors *Muscæ*

tripiles, on account of their abdomen being terminated by an ovipositor, composed of three hair-like pieces, or *Muscæ vibratoriæ*, from their habit of constantly vibrating their antennæ or feelers.

The most interesting portion of their history is the mode in which they are propagated. Other insects either nourish their young themselves, or place them in the midst of an element which contains the food which they require; but these present the anomaly of cradling their offspring in the living bodies of other insects.

They vary in size, from the minutest to the largest among insects. They deposit their eggs sometimes on the outside, but mostly on the inside of the insect which they attack; and it is only to the three first insect forms of egg, larva, and pupa that they choose to commit their offspring. By means of their long ovipositor they pierce the cell of the gall-fly, or the nest of the solitary and the social humble bee; in short, when pressed to lay their eggs, nothing can escape them. Neither the vigilance of the parent nor the solidity of the habitation can defend the young of other insects from their attacks. These grow up just so long as is requisite to supply the young ichneumon which is feeding on their vitals and when it is ready to emerge, they die.

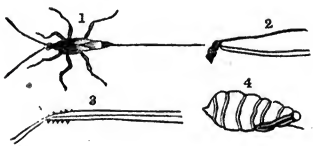


Fig. 1. represents the ichneumon fly with its ovipositor. 2. the ovipositor, seen to consist of three pieces. 3. The centre piece or tube through which the egg is transmitted. It is serrated at the end, and the two lines which run from it ought to have represented a string of mucus, which is lodged with the egg, wherever the latter is deposited.

Those which are obliged to pierce the nests of insects, in order to deposite their eggs, are provided with a long ovipositor; those which simply pierce the insect itself have only short ones.

Fig. 1. is a representation of an ichneumon of the first kind. The long tail consists of three hairs, as in the second figure; the two lateral enclose the middle one as in a sheath; the central fillet is round throughout the greater part of its length, but at the end pointed like a pen, flattened and serrated as in the third figure.

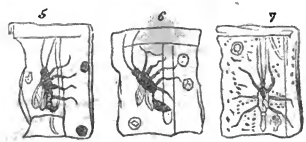
Figure 4. represents the short ovipositors of those ichneumons which pierce the insect only. It lies concealed in a groove under the abdomen.

Reaumur gives the following account of the operations of the ichneumon (*Comitator, F.*) while piercing the cell of that species of solitary wasp which feeds its young with green caterpillars. He had covered a wall with sandy mortar for the purpose of enticing these wasps to make their nests under his eye; they did so in great numbers.

'I saw,' says he, 'this ichneumon at the very moment it settled on the spot under which so many little animals were hidden. Its long tail, which it dragged after it, appeared to form but one thread, though in reality it was composed of three. It soon, however, put it to use: it showed me that it was not only capable of raising or depressing it, but also that it could bend it in various directions, and that in different portions of its length.' It bent its tail, and carried it under its body, so as to protrude it considerably beyond its own head; and it directed it to the spot which its instinct pointed out as the place in which the young wasp was concealed.

'Although,' continues Reaumur, 'the creature did not seem disturbed by my observations, still I could not see whether the serrated point protruded beyond the case which contained it: this, however, I did see—that it gave the whole apparatus movements well adapted to make way even in this mortar. It turned it half round from right to left, and then back from left to right. I looked on for a full quarter of an hour before the ichneumon had succeeded.'

The following figures will perhaps serve to give a clearer insight into the manœuvres of this insect, while driving its ovipositor deeper and deeper.



The cuts represent an ichneumon fly settled on a wall, in which it has discovered the nest of the mason-wasp.

In the 5th figure, the ovipositor, or instrument with which the insect pierces the cells of the wasp, is seen to be directed under the belly of the ichneumon.

In the 6th figure, the insect's head being too near the point of the wall which is to be pierced, the long ovipositor is obliged to be thrown back into a curve; and, being thus shortened, it is seen to pass under the belly of the ichneumon.

In the 7th figure, the ovipositor, being still too long, is curved behind the insect. It is then passed under its belly, and is seen like a thread supported by the right fore-leg of the ichneumon. In order to prevent this instrument from bending, while the insect immerses it into the mortar, it is obliged to support it with the end of its leg. The other two hair-like lines are intended to represent the antennæ of the insect. These three figures convey a good notion of the great flexibility of the ovipositor, and the facility with which the insect can use it under any circumstances.

The manœuvres of those ichneumons which attack the insect itself are as curious as the manœuvres of the others. The body of the caterpillar is the matrix destined to receive the eggs of this spe-

cies. The little fly may be seen pouncing upon a caterpillar, walking over its body, stopping at certain parts, and wounding it with the little sabre-like ovipositor. It is in vain the caterpillar turns and twists itself about; the ichneumon is not at all discomposed, but reiterates the wounds in thirty or forty different places, and in each deposits an egg. The eggs are placed deep enough to allow the caterpillar to change its skin without getting rid of the parasitical young of its enemy. After a time, the caterpillar is covered with little inequalities, which grow higher and higher, so that it pre-

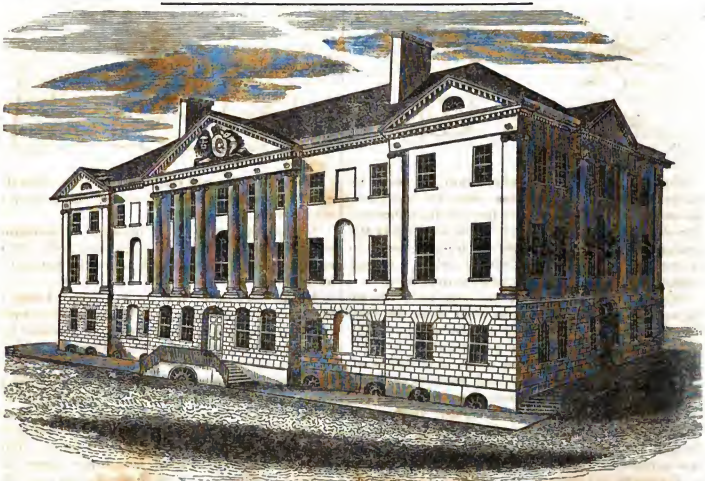
8

sents a hideous appearance, as in figure 8. Its body is studded with the larvæ of the ichneumon, protruding themselves perpendicularly as soon as they emerge; the pain occasioned by thirty or forty larvæ thus boring into its carcass at one time soon causes the caterpillar to die in a sort of convulsion. The larvæ set about spinning their cocoons round the carcass, and afterward undergo their allotted changes.

These are gregarious; and when the caterpillar is opened, as in figure 9, may be found equally developed and regularly arranged in its interior.

9

The miracle is, that the caterpillar, thus perforated, should not die: were this to take place, nature would be defeated. These little worms never attack a vital organ; they consume only the fat that surrounds the alimentary canal. The caterpillar goes on feeding as usual, and thus continues the supply necessary for the full growth of the larvæ of the ichneumon till such time as these are fit to emerge. The instinct of those ichneumons which deposit only one egg in one insect is still more extraordinary. If another perches on one which has already had an egg confided to it, by some sense it discovers the fact that it has been anticipated, and flies off, as if aware that there is just food enough for one larva, and that if two were deposited, both would starve.



Province House, Halifax, Nova Scotia.

PROVINCE HOUSE, HALIFAX, N. S.

The Province House, at Halifax, in Nova Scotia, is built of brown freestone, and is said by Haliburton to be the best built and handsomest edifice in America. It is one hundred and forty feet in length, seventy in width, and forty-two in height. It contains all the various Provincial offices, the Secretary's, Surveyor-General's, Treasurer's, Prothonotary's, Collector's of Excise, &c. It also contains apartments for the Council, House of Assembly, and Superior Courts. It has two passages on the ground floor, one extending the whole length of the building, and the other from the front to the rear. It is situated in the centre of the town, in the middle of a square, the whole of which is enclosed with an iron fence.

THE FIRST FRENCH COLONY IN THE UNITED STATES.

The first attempt by the French to establish a colony on the soil of the United States appears to have been made in the year 1562. It originated in the violent religious disputes and civil war in France between the Catholics on the one hand, and the Protestants, or *Huguenots* as they were contemptuously called, on the other; when the Catholics were at the head of the government. Admiral Coligny, a friend of the Huguenots, had long been desirous of establishing a refuge for them and a Protestant French empire in America. His first attempts failed in consequence of the apostasy and treachery of his agent, Villegagnon. He still persevered, and obtained from Charles IX. king of France, who was undoubtedly very willing to get rid of his Huguenots, an ample commission for the purpose, and gave the command of the expedition to John Ribault, a native of Dieppe, and a man of maritime experience. Ribault, with two ships, accompanied by many volunteers and several noblemen, as well as veteran soldiers, sailed from Dieppe, 18th of February, 1562, for the purpose of forming a settlement in Florida.* After a voyage of about two months, he landed at a cape, in the thirtieth degree of north latitude, which he called Cape Francis, in honor of his country. Coasting from this place towards the north he discovered the St. John's, which he named the river of May, having fallen in with it on the first day of that month. Here he was treated with great kindness by the Indians, and 'caused a pillar of hard stone to be planted within the sayde river, and not farre from the mouth of the same upon a little sandie knappe, in which pillar the Armes of France were carved and engraved.' As he proceeded northward he had further friendly intercourse with the natives, and discovered nine other rivers, which he called after the rivers of his native country. One of these, in the latitude of thirty-two degrees, 'because of the fairnesse and largenesse thereof,' he named Port Royal. Having sailed several leagues into this haven, which appeared to be the outlet of a magnificent river, he 'caused another pillar to be planted upon an island, (probably Lemon island,)† on a hillock open round about to the view, and invironed with a lake halfe a fathom deepe of very good and sweete water.' He proceeded to build a fort, which he called Charles Fort, in honor of his king; and furnishing it, and leaving a company there of twenty-six persons, under the command of Captain Albert, he sailed for France, where he arrived, 20th of July, 1562,—having promised the colonists to return and succor them as soon as possible.

* *Florida* was the name given by the Spaniards at that time to the whole seacoast as far as Newfoundland, and even to the remotest north. They even went so far as to call Canada a part of Florida.

† Pillars were thus planted by the discoverers of countries, to show that they had taken formal possession of them in behalf of their kings. It is supposed that the pillar here alluded to was seen in the year 1832, though the sea has encroached on the island.

In the mean time the civil war raged in France, between the Catholics and Protestants, and Ribault was unable to fulfil his promise. The colonists, whom he left behind, were treated with kindness by the natives, who relieved their wants by giving them all their provisions, retaining no more than 'would be sufficient to sow their fieldes,' and retiring into the woods to live on mast and roots till the time of harvest. The fort with the provisions, took fire, the Indians assisted in repairing it, and the colonists procured further means of subsistence from the Indians in the interior, through the agency of the same king, who had relieved them previously. Not long after this, one of the soldiers was executed for a trifling offence, and the captain resorted to such severe and arbitrary measures for enforcing obedience among his subjects, that they put him to death. Among other acts, he had banished a soldier, named La Chere, to an island about three leagues distant from the fort, and neglected to supply him with food, 'from eight dayes to eight dayes,' as he had promised. Immediately after the captain's death, the colonists sought La Chere, and 'found him almost half dead for hunger.' They returned to the fort; elected a new governor, whose name was Nicholas Barre; after which 'all rancour and dissention ceased among them.' In the mean time, having become fearful lest they might not receive supplies from France, they proceeded to build a small pinnace, although there was 'no man among them that had any skill.' They procured from the pine trees 'rosin to bray the vessel,' caulked it with moss, made sails of their shirts and sheets, were supplied with cordage by the natives; and, having embarked their artillery, forge, and other munitions of war, and 'as much mill* as they could gather together,' set sail for France. Their vessel was becalmed for many days at sea; their provisions were insufficient, and they were obliged to live on twelve grains of mill a day. This small allowance was soon gone; and they sustained life by eating their shoes and leather jerkins. Their water was spent and they were obliged to drink sea-water, or to have recourse to still more disgusting measures for pacifying thirst. These sufferings continued some days, and part of the company perished from hunger. The water entered their rudely constructed pinnace on all sides, and they were obliged, though extremely weak, to be continually casting it out. When they were reduced to this state of want, distress, and exhaustion, 'there arose so boystrous a winde and so contrary to their course, that in the turning of a hande, the waves filled their vessel halfe full of water and brused it upon the one side.' They were now almost in despair, and threw themselves backwards, reckless of what should befall them, or of the consequences of the water which was fast filling their vessel. One of them, however, 'having taken heart,' assured them that they must be near land, and there could be no doubt, if the wind was favorable, that in three days they would discover it. He succeeded in encouraging them so much that they proceeded to cast out the water.

* A species of grain.

They continued the three days without eating or drinking; but no land appeared, and they were in greater distress than ever. It was now agreed that one of their number should be sacrificed. La Chere, of whom we have already spoken, became the victim, 'and his flesh was divided equally among his fellowes.' At length they descried land, 'whereof they were so exceeding glad, that the pleasure caused them to remaine a long time as men without sence; whereby they let the Pinnesse flote this and that way, without holding any right way or course.' They were boarded by a small English bark. The feeblest of the company were put on land and the others were carried to the queen of England, who appears at that time to have had a project of her own in regard to Florida. Such was the fate of the first attempt by the French to settle a colony on the soil of the United States.

S.

SCENE AT AN INSANE HOSPITAL.

The following is a literal copy of a letter, written by an inmate of the State Lunatic Asylum at Worcester.

Dear Friend:—I beg leave to lay before you a little account of a fancy ball given at the State Lunatic Hospital, Worcester, by one of the inmates, on the 6th of January, 1837.

The centre gallery of the north wing, (a hall about ninety feet in length,) was neatly prepared and was to have been decorated with 'evergreens, pines and the fir-tree together,' but the extreme cold prevented. About six o'clock the patients, who were exceedingly pleased with the invitation, were brought, very neatly apparelled, from the different galleries by their respective attendants, and very kindly received by all in the prepared hall or gallery, and all seated. Very still it was for a little time. O! it was a goodly sight, I assure you, to look upon so many faces made happy by the noble and kind heart of their superintendent—all the faces happily affected, but differently.

The music, which was very simple, struck up some airs, faint and slow at first, then more lively; the effect was immediate, and it was interesting to see them one after another arise from their seats, unrequested and unmolested, and very cheerily with noiseless feet, (for I observed they had slipped off shoes,) glide down the long hall and seem to feel themselves unfettered, free, quite regardless of all around them. Some would sadly move, as if the slow measures of the ancient minuet would please them, others would more quickly step and seemed to love the lively air, but with measured time and regularity. One who had been finely educated, and had known better days, was charmed into the belief that we should soon be invaded by a polished foe, and talked of British, Russian, and Austrian forces; but she soon became calm, and danced very prettily, only she could not be persuaded that her partner kept time to the music, and she preferred to dance—by herself! After they had amused their fancy a short time, the assistant physician placed them in order for a country dance, guiding them in his usual mild, deliberate manner through its mazes, and indeed it required great and watchful patience, for they would sometimes, in passing down outside, sail off and seem to forget that they must return to their place and partner, or that they ever had one. It was pleasant to see those who could not be persuaded to leave the spot they were placed in when they first entered, stand and beat time with head, hands, and feet.

By and bye many friends were allowed to enter and look upon them, as well as to engage in the amusements of the evening, and I was highly gratified to see with Dr. Woodward, Dr. Bell of the Charlestown Hospital.

About nine o'clock a march was played which moved all, and quelled or quieted those whom the more lively airs had affected; after marching a few moments, they were all seated and entertained, then all happily conducted to their respective chambers.

And I stood long musing upon what I had witnessed; about forty patients, all in a degree insane, no two alike, yet all had that evening been made happy by music and kind attention. O that all would study to treat the insane more as sane,—in short, study to conduct towards them as the beloved superintendent of the Worcester Hospital does—then, the poor maniac would be less wretched and the insane at times be happy. Your affectionate friend.

SYMPATHIES OF ANIMALS.

Animals which are unable to associate with their own species will sometimes form most strange attachments. I had last year a solitary pigeon, who, being unable to procure a mate, attached itself to an old barn-door fowl, whose side it seldom left at night, roosting by him in the hen-house. The cock seemed sensible of the attachment of the pigeon, and never molested it, or drove it from him. I had also a tame hedgehog, which nestled before the fire on the stomach of an old lazy terrier dog, who was much attached to it, and the best understanding existed between them. I have also seen a horse and a pig associate together, for want of any other companions; and Mr. White, in his Natural History of Selborne, mentions a curious fact of a horse and a solitary hen spending much of their time together in an orchard, where they saw no creature but each other. The fowl would approach the quadruped with notes of complacency, rubbing herself gently against his legs; while the horse would look down with satisfaction, and move with the greatest caution and circumspection, lest he should trample on his diminutive companion.

At Aston Hall, in Warwickshire, I remember to have seen a cat and a large fierce bloodhound, who were always together, the cat following the dog about the yard, and never seeming tired of his society. They fed together, and slept in the same kennel.

A gentleman residing in Northumberland assured me that he had a tame fox, who was so much at-

tached to his harriers, and they to him, that they lived together, and that the fox always went out hunting with the pack. This fox was never tied up, and was as tame, playful, and harmless as any dog could be. He hunted with the pack for four years, and was at last killed by an accident.

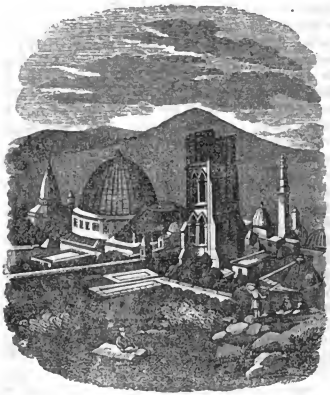
But a most singular instance of attachment between two animals, whose natures and habits were most opposite, was related to me by a person on whose veracity I can place the greatest reliance. Before he took up his abode at Hampton Court, he had resided for nine years in the American States, where he superintended the execution of some extensive works for the American government. One of these works consisted in the erection of a beacon in a swamp in one of the rivers, where he caught a young alligator. This animal he made so perfectly tame, that it followed him about the house like a dog, scrambling up the stairs after him, and showing much affection and docility. Its great favorite, however, was a cat, and the friendship was mutual. When the cat was reposing herself before the fire (this was at New York) the alligator would lay himself down, place his head upon the cat, and in this attitude go to sleep. If the cat was absent, the alligator was restless; but he always appeared happy when the cat was near him. The only instance in which he showed any ferocity was in attacking a fox, which was tied up in the yard. Probably, however, the fox resented some playful advances which the other had made, and thus called forth the anger of the alligator. In attacking the fox, he did not make use of his mouth, but beat him with so much severity with his tail, that had not the chain which confined the fox broken, he would probably have killed him. The alligator was fed on raw flesh, and sometimes with milk, for which he showed a great fondness. In cold weather he was shut up in a box, with wool in it; but having been forgotten one frosty night, he was found dead in the morning. This is not, I believe, a solitary instance of *amphibia* becoming tame, and showing a fondness for those who have been kind to them. Blumenbach mentions that crocodiles have been tamed; and two instances have occurred under my own observations of toads knowing their benefactors, and coming to meet them with considerable alacrity.

Colonel Montague, in the Supplement to his Ornithological Dictionary, relates the following singular instance of an attachment which took place between a China goose and a pointer who had killed the male. The dog was most severely punished for the misdemeanor, and had the dead bird tied to his neck. The solitary goose became extremely distressed for the loss of her partner and only companion; and probably having been attracted to the dog's kennel by the sight of her dead mate, she seemed determined to persecute the dog by her constant attendance and continual vociferations; but after a little time a strict friendship took place between these incongruous animals. They fed out of the same trough, lived under the same roof, and in the same straw bed kept each other warm; and when the dog was taken to the field, the lamentations of the goose were incessant.

Some animals of the same species form also strong attachments for each other. This was shown in the case of two Hanoverian horses, who had long served together during the peninsular war, in the German brigade of artillery. They had assisted in drawing the same gun, and had been inseparable companions in many battles. One of them was at last killed; and after the engagement the survivor was picqueted as usual, and his food brought to him. He refused, however, to eat, and was constantly turning round his head to look for his companion, sometimes neighing as if to call him. All the care that was bestowed upon him was of no avail. He was surrounded by other horses, but he did not notice them; and he shortly afterwards died, not having once tasted food from the time his former associate was killed. A gentleman who witnessed the circumstance assured me that nothing could be more affecting than the whole demeanor of this poor horse.—*Jesse's Gleanings.*

Good advice to a farmer.—'Many years ago,' said a quaker friend who told us the following anecdote, 'many years ago, a brother of the celebrated Benjamin West, who had been a cooper in this city, a man of sterling sense and integrity, purchased a farm some miles out of the city which had been suffered to be overrun with briars and bushes. He was for a short time considered by his neighbor farmers as very far from being as wise as Solomon, or even as themselves, but in a few years, his was the best, and most productive farm within fifty miles around him; his fame as a farmer, spread far and wide. One day a man came to him who was desirous of improving his farm, and asked him how he should do it. Go home, said Mr. West, and make five or ten acres as rich as thee wants, and come to me and I will tell thee what to do next. But, said the farmer, I have not manure enough to do that. Very well, then, go and prepare thee three acres, two acres, or one acre in the same way, but what thee undertakes, do well. The farmer, said our friend, perfectly comprehended the advice, and what is unusual, practised upon and benefited by it, leaving at his death one of the best farms in the country.' Go and do likewise.—*Phil. Herald.*

Apple trees.—The following statement, respecting a new mode of raising apple trees, if true, is certainly worthy of attention. A horticulturist in Bohemia has a beautiful plantation of the best sort of apple trees, which have neither sprung from seeds nor grafting. His plan is to take shoots from the choicest sorts, insert them in a potato, and plunge both into the ground, leaving but an inch or two of the shoot above the surface. The potato nourishes the shoot whilst it pushes out roots, and the shoot gradually springs up and becomes a beautiful tree, bearing the best of fruit, without requiring to be grafted.



THE CHURCH OF THE HOLY SEPULCHRE.

Among the numerous memorials of the Christian faith to be found in Jerusalem, the most remarkable is the Church of the Holy Sepulchre, which is built on the lower part of the sloping hill distinguished by the name of Acra, near the place where it is joined to Mount Moriah. It forms, altogether, a block of masonry about one hundred and sixty feet by one hundred in width, in which are included the chapel of the crucifixion, the church of the sepulchre, some small chapels, and a monastery, the cloisters of the monks occupying the portions of the building next the street. The church tower is without bells, as, with the single exception of Mount Lebanon, bells are not allowed to Christian churches in Turkey. The height of this tower has also been reduced from a similar feeling of jealousy on the part of their Turkish masters. The Turkish government, aware of the veneration which all Christians entertain for relics in any way connected with the sufferings of the great founder of their religion, have converted this feeling into a source of revenue; every person not subject to the Sublime Porte, who visits the shrine of Jesus Christ, being compelled to pay a certain sum of money for admittance. But the church, nevertheless, is opened only on particular days of the week, and cannot be seen at any other time without an order from the two convents, the Latin and the Greek, with the sanction of the governor of the city. On such occasions, the pressure at the doors is very great; the zeal of the pilgrims checked by the insolence of the Turks, who delight to insult and disappoint their anxiety, leading sometimes to scenes of tumult not quite in harmony with their pious motives. We shall give an account of the effect produced by the local and historical associations of the place on a sober spirit, in the words of a traveller who has visited the spot.

The mind is not withdrawn from the important concerns of this hallowed spot by any tasteful decorations or dignified display of architecture in its plan or in its walls; but having cleared the throng, the religion of the place is allowed to take full possession of the soul, and the visiter feels as if he were passing into the presence of the great and immaculate Jehovah, and summoned to give an account of the most silent and secret thoughts of his heart. Having passed within these sacred walls, the attention is first directed to a large flat stone in the floor, a little within the door; it is surrounded by a rail, and several lamps hang suspended over it. The pilgrims approach it on their knees, touch and kiss it, and prostrating themselves before it, offer up their prayers in holy adoration. This is the stone on which the body of our Lord was washed and anointed, and prepared for the tomb. Turning to the left and proceeding a little forward, we came into a round space immediately under the dome, surrounded with sixteen large columns which support the gallery above. In the centre of this space stands the holy sepulchre; it is enclosed in an oblong house, rounded at one end with small arcades or chapels for prayer, on the outside of it. These are for the Copts, the Abyssinians, the Syrian Maronites, and other Christians, who are not, like the Roman Catholics, the Greeks, and Armenians, provided with large chapels in the body of the church. At the other end it is squared off and furnished with a platform in front, which is ascended by a flight of steps, having a small parapet-wall of marble on each hand, and floored with the same material. In the middle of this small platform stands a block of polished marble about a foot and a half square; on this stone sat the angel who announced the blessed tidings of the resurrection to Mary Magdalene, and Joanna, and Mary the mother of James. Advancing, and taking off our shoes and turbans at the desire of the keeper, he drew aside the curtain, and stepping down, and bending almost to the ground, we entered by a low narrow door into this mansion of victory, where Christ triumphed over the grave, and disarmed Death of all his terrors. Here the mind looks on him who, though he knew no sin, yet entered the mansions of the dead to redeem us from death, and the prayers of a grateful heart ascend with a risen Savior to the presence of God in heaven.

In addition to the above account, we cannot forbear quoting from Jones's Excursions to Cairo, Jerusalem, &c. the following very interesting and affecting sketch of the impressions made by a visit to this hallowed spot.

For a while we were unwilling, and I believe should have been unable, to enter into the inquiry whether this was really so;—so strong an emotion was created by the annunciation that we were in our Lord's sepulchre, and that before us was the coffin where his body had lain, and from which he rose triumphant, leading captivity captive. We stood for a long time silent, gazing on the marble; and I believe it would have taken little to have caused us to shed tears. The place was lighted only by lamps suspended from the ceiling over the coffin; no sounds were heard, except occasionally

of our deep breathing, as our emotions became almost too strong to be restrained. And our feelings, I believe, were of a salutary nature.

There was then in our company, one of whom I am allowed here to speak, but whom the shrinking modesty which she always evinced while living, and which should still be regarded, will allow me barely to notice. She was dear to us all; and although, with such solemn scenes as these around us, it becomes me to speak with humility of worldly accomplishments, I may say she possessed them in an unusual degree, and that she was admired and beloved at home and abroad by every one that knew her. She is now no longer in this world. In the grave, earthly accomplishments, and even earthly love, avail us nothing; but religion does avail; and the religion of the cross of Christ, so full of hope and glory, she was led to adopt, by this visit to Calvary and to the sepulchre of Christ. She had been educated by pious friends, and had respected and esteemed the ordinances of the gospel; but this visit, and the scenes here brought before her mind, made her realize as she had not done before, how great was the price paid for her salvation, and how strong are our obligations to give ourselves unhesitatingly to him who hesitated not to give himself for us. Selecting a proper time, when the act would be free from ostentation, she took out her bible, which she had brought to the city, and placing it on the coffin, wrote, as was long after discovered, her name and the date of our visit, with the quotation, 'Let every thing that hath breath praise the Lord.' Not long after her return to the ship she made a meek yet decided avowal of this Savior, as her only hope and trust; and all who knew her witnessed a corresponding exhibition of Christian character. For the change which brought the humble and gentle virtues into striking relief, while hope rose higher and became full of immortality, she always referred to this visit as the immediate cause. She was, at that time, apparently in excellent health; but youth and health are no guarantee for us in this our earthly home. When our ship, eighteen months afterwards, approached our own shore, it bore her a feeble and exhausted invalid; and when land at length rose to our sight, we scarcely heeded it; for she, our companion so long, and so beloved by us, was now a corpse. She had expired suddenly only the evening previous. By her mourning parents in that hour of anguish, I heard this visit spoken of, and they found in its consequences a source of consolation, such as the whole earth could not have afforded them; to her, had she possessed worlds, what would they have been in comparison with her religion?

When we spoke, at length, as we stood by the coffin in this sepulchre, it was involuntarily in low tones, and in brief sentences; and it was a relief to get out where the feelings were less oppressive. I speak of the sensations of others as well as of my own; for I have since frequently heard them speak of this visit and of its effects on their feelings.

Our feelings however, in this case, led captive by the scene around us, by the silent chamber lighted by a few lamps, the marble coffin, and the tradition that this was our Lord's sepulchre, acted without the concurrence of our judgment; or rather, they suspended for a while the power of judging or the disposition to inquire. Yet, although for reasons already given, I have little doubt that this was the spot of our Savior's interment, the assertion that this is the sepulchre itself, wants confirmation; and the marble coffin or sarcophagus, I cannot regard as any thing more than a mere *representation* of the grave, or the place where the body was deposited; and for this it is by no means happily chosen. This *may* be the sepulchre, cut on the outside into the form of a little chapel; but as nothing but marble is seen both within and on the outside, the native rock, if it exists, being nowhere allowed to appear, we have no means of satisfying ourselves that it is so; and the circumstances are altogether suspicious, particularly when taken in connexion with the many other assertions with regard to sacred places in Jerusalem which are manifestly beyond belief. The coffin is of white marble, slightly marked by a few veins of a light blue color; it is rectangular, six feet long within, about three feet broad, and two feet two inches in depth; being in all respects exactly like the ancient sarcophagi found all over Greece and in Asia; the cover remains, and the whole exterior has a slight degree of roughness, as if it might once have been exposed to the weather. This is entirely at variance with the ancient tombs still to be seen in great numbers about Jerusalem, and particularly in the district lying north from the present city. They are composed sometimes of a single chamber, sometimes of a succession of chambers, cut in the solid rock, with a rectangular cavity large enough for a body, in the floor, at the side of the chamber; in the larger chambers, there are more cavities than one, and in a few cases, instead of being cut in the floor, they form a box against the side, but cut also out of the solid rock. In no case that I have heard of, has a marble sarcophagus been found within them, none would be needed; and even in the tombs of the kings of some magnificence, northward from the city, the native rock has been exclusively employed. The evidence is altogether against this marble sarcophagus, and I cannot yield it my belief.

But still, whether it was that I had some lingering doubts on the subject, or whether it was the name it bore, and the silent and lamp lit chamber in which it is presented, I cannot say; but though I visited this chamber repeatedly, it was always with a feeling of awe mingled with a degree of reverence.

WESTERN EMIGRATION.

In a preceding part of this volume we have given a sketch of some of the difficulties to be encountered by the poorer class of emigrants in their removal to the West. But their difficulties do not end with their arrival in this land of promise. Many of them, not being able to buy even cheap government land, are obliged to take possession of that which does not belong to them. We copy from Sedgwick's valuable and interesting work,

the following account of the manner in which a title to the public lands is sometimes obtained.

The United States have an immense body of wild land, which is now sold for a dollar and a quarter an acre cash, no credit being allowed, as was formerly the case. Great portions of these lands are not surpassed in beauty and fertility. A part is covered with wood, this is called *timber* land; another part is prairie land, which has this peculiarity, that there are millions of acres of continued, open *meadow* [prairie being the French word for meadow] upon great parts of which there is not a tree, nor scarcely a shrub. There are, however, frequent woods, but so sparse generally, as to seem to be a sort of fringe or skirt to these open prairies. The best prairie land is that which is skirted by a due proportion of wood, which the settler at present considers essential to his farm. There is in many parts of the prairie a great deficiency of wood, indispensable for fuel and the fencing of the farm. This deficiency on the open unwooded prairie, which often extends for many miles, will, it is supposed, be hereafter supplied by planting young trees for fencing and fuel; by hedges, and terraces. It is very certain, that the industry and ingenuity of the people will overcome every difficulty that stands in the way of the cultivation of this garden land.

Besides the wild lands belonging to the people of the United States, there are other large tracts of wild lands belonging to individuals, most of which have been purchased from the United States or individual States.

It is this public and private land, that many poor emigrants, in wandering over the country, set themselves down upon, without a shadow of title, in which case, they are called *squatters*. The law, after a certain lapse of time, gives to these squatters a right to the land, which is called a title by possession. It is however generally a title founded in injustice, for no good and honest man will seize upon property which belongs to another. The most favored lands in the United States, in which every American citizen has an interest, those where there is the finest prairie, the best water, with a due proportion of wood, are every day thus seized upon by squatters.

These squatters are now often called in some of the western States *claimants*. Having taken up the best lands—in order to confirm their title, they erect a log house, and make some slight improvements, but generally no substantial ones worthy of good farmers and citizens of the State, for as yet they are not certain of gaining a valid title to lands thus occupied. These claimants often sell these claims, with the inconsiderable improvements they have made, and then move on farther west to take possession of some other favored spot belonging to the people of the United States. A portion of these claimants, after having made some trifling improvements, that may give them a color of equity as new settlers, wait till the government sales take place, in order that they may buy at the government price, and thus confirm their ill-gotten titles. At the public sales, the lands are put up for sale to the highest bidder, but though the claimants have taken possession of the best lands, they insist upon having them at the least price, that is the minimum price of one dollar and a quarter the acre; and to effect their object, by combination and threats of violence against all that would bid above them, they defeat the policy of the law, and obtain the lands at their own price.*

There is something even worse that takes place in regard to the government lands and these poor claimants, which is this; that many of them are so destitute that they cannot buy even at the government prices when the sales take place; in which case they sell their claims, very often, for some trifling sum to land speculators. The land, in such cases, to save appearances, is bid for in the name of the claimant, (against whom no man dare bid,) but for the benefit of the speculator.

Again, these claimants are sent forward as mere catspaws by land speculators to make claims to the finest lands, but they being men of straw, the lands are finally bid off for the benefit of the speculator as before. In many other ways the poor claimants and squatters become the mere instruments and victims of the land speculator, as all very destitute people are liable to be of capitalists and rich people.

Thus we see the natural effects of extreme poverty in the settlement of a new country, and how bad principles and bad practices are perpetuated among the people; though it is certain that all these disreputable proceedings are not attributable to that cause.

The United States possess in their new lands the most ample provision for the poorer and least fortunate portion of the people, as well as for public objects, that exists on the face of the earth. For these objects should they be, as far as possible, protected from the grasp of speculators. As the condition of the nation changes, their policy should change. Most of the Indians being removed, or in the course of removal, the frontier man has little to dread from them. Many of the indulgences, therefore, heretofore granted to induce him to settle a new country, are not now necessary. Let the lands, then, of the United States be as sacred as any other property, and disposed of only by the will of the people expressed in their laws. Injustice is a poor foundation for the fortune of an American farmer and citizen. What so noble sentiment can there be in his mind, as that his possessions are the reward of his virtue and industry! What worse lesson can the people suffer to be taught by their government, than that of fraud in obtaining a title to a portion of the earth, which, if honestly acquired and industriously cultivated, is the source of so much virtue and happiness.

This account of the poor squatter and claimant is not intended to include all new settlers. Far from it. Many of them are among the most virtuous, economical, and thriving of our people. We have seen how, in other countries, the monopolizer and rich capitalist may, if he will, bring the poor

* It is well known, that at the summer sales, at Chicago, in 1835, scenes, in the highest degree disgraceful to the people, and dishonorable to the United States, were exhibited.

man down to nothing, and we see here how it is done by the land speculator, in the case of the indigent squatter and land claimant. And all for what? For the want of a little independence, a little fortune, perhaps a small sum of money, a thousand dollars, or five hundred, or even a much less sum, such a sum as almost any of our young manufacturers, mechanics', or farmers' sons, may lay up in a very few years; such a sum, as with prudence might be within the reach of nearly every grown-up man in the nation; a sum which has been foolishly drunk, or eaten, or consumed, by some sensual indulgence, or fooled away for gewgaws or finery, that the fashionable have introduced among the common people, and which all despise after six months' use.

There is nothing so important to mankind, and especially to the poorer part of mankind, as that the people of the United States should continue to prosper; that they should banish mobs, riots, violence, every kind of injustice, as well as all stupid indulgences that consume and destroy property; that they should continue to show how good principles will make it increase, so that it may be distributed more equally than it has been, and so that every poor man may enjoy greatly more than his present portion.

There is little that is more interesting in the history of mankind, than the enterprise, industry, and unconquerable resolution of those who, in the face of poverty, disease, and savage enemies, subdue and settle a new country. These were the virtues of our ancestors in the old States, and in our day have been the virtues of our western brethren. These new republics should scorn to take any example from us that is not worth following. They must examine for themselves the reason, sense, and utility of things.

LAFAYETTE'S JAILER, AT OLMUTZ.

Latour Maubourg speaks of a certain corporal decorated with the title of prévôt, and no less timorous than covetous. It has occurred to me, that you will not be sorry to make a more ample acquaintance with this individual, for the melancholy part which he has played in the history of the victims of Olmutz has transformed him from an obscure individual into an historical personage. The whole time of Mademoiselle Anastasie Lafayette was not employed in attending to her poor mother, or in making clothes, or shoes and stockings, for her father. In concert with her younger sister, she endeavored to afford her parents every amusement that could relieve the sorrows of their situation. One day, she sketched a portrait of the corporal on her nail, in order that in case of a surprise, the drawing might not be seized, and to prevent the model himself from perceiving the sketch; for you may well imagine, that the old fellow was not of a disposition to sit for his picture at full length. Mademoiselle transferred her sketch to a sheet of paper, and afterward, when she quitted the prison, made a copy of it, which is at present at La Grange, near the door of her father's apartment. The following is a description of the old corporal. He is represented in the act of opening

the door of the prison which gives upon the corridor, and which is secured above and below with crossed bars provided with padlocks. His half bald head is uncovered; his few remaining hairs are collected into a little queue, which is ludicrously turned aside over his shoulder;* and he advances with the stealthy pace of a timid individual, who lends an attentive ear to some fancied noise. In one hand he holds a bunch of large keys, one of which he directs mechanically towards the lock; in the other hand he holds one of those beaked lamps which are much used in Germany, and its dim light is reflected on his visage. A stick, which serves for self defence or the chastisement of offenders, is attached to his wrist by a leathern strap; his little three cornered hat is squeezed flat under his arm; his sabre is fastened to his side by a girdle; his waistcoat, breeches, wide boats, and in fact the whole of his attire, show that he is in undress; and his knees seem to bend, not so much under the weight of years as under the influence of cowardice. But enough of this poor devil, who, like his general, has long since departed this life. The sketch which I have annexed will give but a faint idea of him, in comparison with the original portrait, executed by a daughter who traced the features of her father's jailer.—*Cloquet.*

WATER SPOUTS.

Some account of water spouts has already been given on the 231st page of this volume. As they are objects of great interest, and still the subject of much inquiry among philosophers and men of science, we extract from the Philosophical Society's Transactions the following statements, by James P. Espy, respecting the New Brunswick spout, June 19th, 1835. Mr. Espy says, 'From the evi-

* On this account, probably, the prisoners gave him the nickname of *Cataquois.* His real name was Colomba.

dence which I collected during five days which I spent on the Brunswick spout, the following important facts are clearly established.

'The spout was suddenly formed about seven and a half miles west of New Brunswick, and terminated as suddenly at Amboy, about seventeen and a half miles from where it began. It travelled a little east of north, with a very moderate velocity, probably not more than twenty-five or thirty miles an hour. It appeared to all persons, in whatever direction it was viewed, in the shape of an inverted cone of very dark cloud or smoke, reaching from a dark cloud above down to the earth.

'It prostrated nearly every thing in its path, which was from two hundred to four hundred yards wide; the trees on the north of the central line being thrown with their tops towards the northeast, while those in the central line itself were thrown nearly towards the east, or in the direction of the spout; not one instance being found of the trees being thrown with their tops outwards.

'It unroofed the houses, prostrating many of their walls outwards as if by explosion, and tearing up the floors of some whose walls were left standing; and, not unfrequently, it lifted frame buildings entire from their foundation.

'It carried the joists and rafters in some instances to a considerable height and threw them down on the north side of its path, four hundred yards from the house from which they were taken, almost at right angles to its course, and exactly opposite to the course which the wind must have blown at the ground in the yard, as manifested by the direction in which the trees were lying.

'It carried up shingles, boards, hats, books, and branches and leaves of trees, and threw them down on the north side of the spout in a band of several miles wide, terminating on the north-east end of Staten island and fifteen miles from Amboy, where the spout ceased to reach the earth, and twenty-five miles from New Brunswick.

'At the time when these materials fell, there fell with them a violent shower of hail and rain, the hail however being confined to a few miles in the middle of the band where the heaviest part of the shingles and boards fell.

'On each side of this band, particularly on the north, there fell a copious shower of rain, mingled with shingles; and even beyond the borders of the rain, on the northeast, small branches and leaves of trees fell in New York bay, and in North river opposite to the city of New York.

'There was no rain nor hail on the path of the spout nor on the south side of it; it began about a mile on the north side, increasing in quantity to the middle of the band where the hail was, and then gradually diminishing again as it approached the northern and eastern boundary.

'The spout lasted only for a few seconds in a place, and was immediately before and after nearly calm, and its effects were hardly felt a few hundred yards off to either side. The noise which accompanied it was everywhere described as very alarming, not like any thing heard before; more like the rumbling of a great many carriages than any thing else, or, as one man expressed himself, like an earthquake in the air. In Staten island, as to the length of time this noise was heard previous to the commencement of the hail and rain, the evidence varies from fifteen minutes to an hour, and as to the length of time the shower was falling, it varies from eight minutes to thirty or forty.

'Though there was no rain in the path of the spout, the cloud or mist of which it was composed must have been very humid, as the grave-stones at Piscataway were covered on the west side with a coat of mud, and in many places the grass and leaves, which lodged in masses on the west side of trees which were left standing, were clotted together with mud, as if they had been drifted there by an inundation, and several persons that were caught in the spout were entirely covered with mud, so that they could not be known by their friends. There were some lightning and thunder attending the meteor, but not much, unless the continual rumbling or roar was produced by it, which is not very likely, as a great many, who heard the rumbling, did not even see lightning.

'The wind, probably in the whole length of the spout, certainly in many places, began to blow on the northern half of the spout from the northeast, and on the southern half of the spout from the southeast; for materials were found which had been moved in that direction first, and afterwards carried back even beyond their original position by the hinder part of the spout, which appears, in all cases, to have been the strongest. As a proof of this, several places were found, where the weak and rotten trees were thrown down by the van of the spout, with the tops of those on the northern side towards the southwest, and the tops of those on the southern side towards the northwest, while the stronger trees, which resisted the first shock, were afterwards prostrated by the rear of the spout. And in every case where trees were found lying across each other, which, to a careless observer, might have indicated a whirlwind of confusion, the most perfect regularity was manifested; the strongest trees lying on top, and with their tops pointing inwards and forwards, as mentioned before.

'Besides, four different places were found where the tops of all the trees in a circular space, equal in diameter to the breadth of the spout, were thrown inwards, towards one common centre. In the middle of one of these stood a large frame house, which had its roof carried off. The walls of the upper story, both on the north and south side, were cracked; and in one crack was thrust a lady's pocket handkerchief, and in the other a sheet, taken up from a bed in the room, and the cracks closed when they were carried partly through. All the windows in the house were broken, and much of the glass was lying on the outside of the house. The owner of the house is sure all this was done in a second or two of time, and he assured me that the next moment it was as still as death, not enough of air to move the leaves of the trees, which were prostrated all around his house, with their tops against his very door.

'In this case the van of the spout appears to

have been as strong as the rear, for several outhouses to the east of the dwelling mansion were prostrated, having many of their heaviest materials carried some distance towards the west. Perhaps, indeed, I was too hasty in drawing the conclusion that the rear of the spout was stronger than the van, from the circumstance that the trees were generally thrown down in the direction of the spout; for if the forces had been equal, they might have generally fallen in this direction, from the momentum they would have in this direction in straightening themselves by their elasticity, at the moment the van passed, and the rear came upon them. Notwithstanding, as the wind on that day was from the southwest, this circumstance renders it probable that the rear of the spout was the strongest; for it would appear that the force of the wind, whatever it was, should be added to the rear and subducted from the van.

'During the fall of rain and hail on Staten island, the wind in the borders of the shower, blew in all places from the centre of the shower, very strong in the northern part from the south, variable in the middle, and moderate in the south from the north. And the rumbling noise preceded the fall of rain at least fifteen minutes, at Mussero's ferry, on the very north side of the island. As the time of the shower, at this place, was certainly, from the evidence, after the spout had disappeared, it seems probable that the spout continued in mid air some time after its disappearance at the surface of the earth.

'Was this noise caused by the concussion of the materials, the lighter particles of hail, which were then just formed, being carried up with great swiftness against the heavier, which, at that time, might be at their greatest elevation, or even beginning to descend; or was it produced by electricity? The height of the spout, where it lost itself in the cloud, though it probably rose much higher into the cloud itself, was not very certainly made out.

'It is probable, however, from comparing several accounts of the distance at which it was seen, and the angular elevation as near as could be ascertained, that the height was about a mile, or from the very distinct testimony of Mr. Cole, a little more.

'He was standing four and a half miles east of Amboy, beyond which the spout did not reach. He saw a very black column of cloud, about eight times as high as it was broad, rising in the west; lighter clouds on each side of it were streaming towards it with great velocity, and joining it, but not crossing it. The upper end of this column was about ten degrees high. The evidence of Mr. Hunt, engineer of the boat Napoleon, is almost exactly similar to Mr. Cole's. He was about seven miles from New Brunswick and saw the spout before it reached the town. He thinks, however, that the column was only about three times as high as it was broad. After looking at it some minutes, he could plainly see detached pieces of clouds, darting inwards and upwards, joining the upper end of the column, and losing themselves there, and in five or six minutes more, when the column reached New Brunswick, the materials which had been seen to fly upwards, increased in number, and gave the appearance of a volcano; these materials seemed to him to rise three hundred yards. Now, as the spout, when first seen by Mr. Hunt, must have been eight or nine miles distant, its height could hardly have been less than a mile.

'On this same day, three other spouts occurred about seventeen miles apart, measuring perpendicularly to the line of direction of the Brunswick spout. The one next to the Brunswick spout, seventeen miles north, passed through a village in the neighborhood of Patterson, New Jersey, about three hours after the passage of the spout at Brunswick. It was accompanied by violent hail and rain, on the very path of the spout.

'On the same day, and afternoon and night, there was a very great rain in the State of New York, commencing at Schenectady about 3 P. M. with a roaring of fifteen minutes, like a distant cataract; 2.45 inches of rain fell in Albany, wind north, and much more at Lebanon. And, during the whole night of the 19th, there was in the neighborhood of Amboy a violent southwest wind, and very black clouds coming from the northeast, mingled with a bright silvery light, and most vivid lightning, without thunder. The wind below changed about daylight to the northeast and blew violently very cold for some hours, and then again resumed its old course, southwest, on the afternoon of the 20th.

'On this same morning, the 20th, a most violent northeast gale was experienced at Quebec.

'Two conclusions, which promise to be of immense value in meteorology, are clearly deducible from the facts here established.

'1. There was an inward motion of the air in all directions towards the centre of the spout below, and upward motion in the middle.*

'2. The hail was formed by the congelation of drops of rain generated at and over the place where the shingles were taken up.'

CONSUMPTION.

BY BRYANT.

Ay, thou art for the grave: thy glances shine
Too brightly to shine long; another Spring
Shall deck her for men's eyes, but not for thine—
Sealed in a sleep which knows no wakening.
The fields for thee have no medicinal leaf,
And the vexed ore no mineral of power;
And they who love thee wait in anxious grief
Till the slow plague shall bring the fatal hour.
Glide softly to thy rest, then. Death should come
Gently to one of gentle mould like thee,
As light winds wandering through groves of bloom
Detach the delicate blossom from the tree,
Close thy sweet eyes, calmly, and without pain,
And we will trust in God to see thee yet again.

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* The cause of this upward motion in the spout is the great expansion of the air from the evolution of latent caloric, when the vapor in the spout changes to water; the expansion of the air by the liberated caloric, being about six times greater when combined with water in the form of vapor.

JAMES MADISON.

James Madison, the fourth President of the United States, was born on the 5th of March, 1751, old style. His father's house, which was his own place of residence also, and which he much improved and adorned, was situated in Orange county, at the foot of the Blue Ridge, about twenty-five miles from Charlottesville, Virginia. It is a remarkable circumstance, that three Presidents of the United States, Jefferson, Madison and, Monroe, who were intimately connected as personal friends and political associates, all resided in that region, within a short distance of each other.

Having pursued at home a course of preparatory studies, he at length entered the college at Princeton, New Jersey, where he received the degree of Bachelor of Arts, in the autumn of 1771. After leaving college, with his health somewhat impaired by severe study, he spent several years in miscellaneous reading, and the study of the law. At the commencement of the dispute with Great Britain, he embarked with zeal in the American cause. In the spring of 1776, at the age of twenty five, he was elected a member of the legislature of Virginia, which, in May of that year, anticipated the declaration of Independence by unanimously instructing the deputies of that State to propose it.

The following year he was appointed by the legislature a member of the Council of State, which station he filled several years with much usefulness, while Patrick Henry and Mr. Jefferson were governors of the State. He rendered himself popular among the members of the legislature by his amiable deportment, and by the aid he occasionally afforded them in drafting bills, reports, &c. His talents for writing and for business, and particularly his knowledge of the French language made him subsequently a very useful and efficient member of the council. This proved a good school for him; for here his constitutional diffidence was in some measure worn away, and he became gradually habituated to speech-making in public, in which he afterwards became so powerful.

In 1779, he was elected a delegate to Congress, and took his seat in that body in March, 1780. From that time to the fall of 1783, he was an active and leading member of Congress, and took a prominent part in many of the most important transactions. In the years 1784, '85, and '86, he was a member of the State legislature. While serving in this capacity he explained and urged the pressing necessity of a reform in the federal system, and of a more perfect union among the States. At length, in May, 1787, a convention met at Philadelphia to take these important subjects into consideration. Washington was placed at the head of the Virginia delegation, and Mr. Madison was one of its members. Their deliberations resulted in recommending to the States our present national constitution.

Of this illustrious assembly, Mr. Madison was the last survivor. He took a leading part in its deliberations, and he has left behind him, prepared for publication, the debates of that body, reported at much length and with great exactness. By a resolve, passed at their last session, Congress voted to purchase this work for $30,000. Soon after the convention terminated its labors, Mr. Madison, in conjunction with Jay and Hamilton, wrote *The Federalist*, which has since become a constitutional text-book. He was a member of the State convention of Virginia to consider the expediency of adopting the constitution, and was constant and unwearied in his exertions to explain and recommend it.

In February, 1789, he was elected a member of Congress, and remained a member by re-elections till March, 1797. During this period of eight years, he exercised a powerful influence and took a leading part in all the important acts and deliberations of that body. He was accustomed to speak on all important questions, but never without thorough preparation, and rarely without exhausting the topics he discussed. It is well known, that in the formation of parties, he took sides with Mr. Jefferson and what was called the democratic party. But there always subsisted between him and Washington, and some of the other leaders of the opposite, or Federal party, feelings of mutual respect and regard.

In 1794 he married Mrs. Todd, the widow of a respectable lawyer of Philadelphia, a lady whose amiable disposition and many excellent qualities rendered his connexion with her, what he never ceased to consider it, the happiest event of his life.

The celebrated resolutions of the legislature of Virginia, passed in 1798, against the alien and sedition law, were written by Mr. Madison, though not a member of that legislature. In the following year, he drew up the yet more celebrated report containing a vindication of those resolutions. In 1801, he was appointed one of the electors of

president and vice-president, and gave his vote for Thomas Jefferson and Aaron Burr.

During the eight years of Mr. Jefferson's administration, he held the office of Secretary of State, the duties of which station, through that trying period, he performed with signal fidelity and ability. In 1809, he succeeded Mr. Jefferson in the Presidency. During his administration, the misunderstanding with Great Britain, notwithstanding all his efforts to prevent it, terminated in the war, which was declared in June, 1812. In those times of high party excitement great differences of opinion existed as to the wisdom and expediency of his measures. But already, before his demise, there appeared to be a very general sentiment of cordial respect and deference towards him as a patriot of the purest intentions and wisest conduct. Undertaking the presidency at a crisis of the utmost difficulty, he continued in it by reelection, during the established period of eight years, and when he retired, left the country in a high degree glorious, prosperous, and content.

'At about sixty-six years of age,' says the writer of the Memoir in the National Portrait Gallery, from which we have gathered most of the facts in this biographical sketch, 'he retired from public life, and ever after resided on his estate in Virginia, except about two months while at Richmond as a member of the convention in 1829, which sat there to remould the constitution of that State. His farm, his books, his friends, and his correspondence, were the sources of his enjoyment and occupation, during the twenty years of his retirement. During the most of that time his health, never robust, was as good as usual, and he partook with pleasure of the exercise and conviviality in which he had always enjoyed himself. A good farmer on a large scale, he acted for some time as president of an agricultural society, and for a much longer time first as visiter, and after Mr. Jefferson's death as rector, of the university of Virginia, located at Charlottesville, in his neighborhood; among whose founders and friends he bore a conspicuous part. Prevailed upon, when just convalescent from severe illness, to be a member of the Virginia convention of 1829, the infirm condition of his health, being then near eighty years old, prevented his taking a very active part in its deliberations. His main purpose, indeed, appears to have been to promote a compromise between parties so stiffly divided on local and personal interests as to threaten the tranquillity of the State. On some of the principal topics discussed, he is understood to have yielded his own opinions to that consideration, as well as the urgent instances of his constituents.'

He died on the 28th of June, 1836, 'as serene, philosophical, and calm in the last moments of existence, as he had been in all the trying occasions of life.'

This brief account of Mr. Madison's life and public services cannot be more appropriately closed than by the following message of the President to both Houses of Congress, announcing his death, and the proceedings thereon in the House of Representatives.

'It becomes my painful duty to announce to you the melancholy intelligence of the death of James Madison, ex-president of the United States. He departed this life at half past six o'clock, on the morning of the 28th inst. full of years and of honor.

'I hasten this communication, in order that Congress may adopt such measures as may be proper to testify their sense of the respect which is due to the memory of one whose life has contributed so essentially to the happiness and glory of his country, and to the good of mankind.'

The message having been read, and the House addressed by Mr. Patton, of the Virginia delegation, who offered the following resolution:

'Resolved, that a committee be appointed on the part of this House, to join such committee as may be appointed on the part of the Senate, to consider and report by what token of respect and affection it may be proper for the Congress of the United States to express the deep sensibility of the nation to the event of the decease of Mr. Madison, just announced by the President of the United States to this House.'

On the reading of the resolution, the following remarks were made by Mr. Adams, the only surviving ex-president of the United States, and then a member of the House of Representatives.

'It is not without some hesitation, and some diffidence, that I have risen to offer in my own behalf, and in that of my colleagues upon this floor, and of our common constituents, to join our voice, at once of mourning and of exultation, at the event announced to both Houses of Congress by the message from the President of the United States—of mourning, at the bereavement which has befallen our common country by the decease of one of her most illustrious sons—of exultation, at the spectacle afforded to the observation of the civilized world, and for the emulation of after times, by the close of a life of usefulness and of glory, after forty years of service in trusts of the highest dignity and splendor that a confiding country could bestow, succeeded by twenty years of retirement and private life, not inferior, in the estimation of the virtuous and the wise, to the honors of the highest station that ambition can ever attain.

'Of the public life of James Madison, what could I say that is not deeply impressed upon the memory and upon the heart of every one within the sound of my voice? Of his private life, what but must meet an echoing shout of applause from every voice within this hall? Is it not in a pre-eminent degree by emanations from his mind, that we are assembled here as the representatives of the people and States of this union? Is it not transcendantly by his exertions that we address each other here by the endearing appellation of countrymen and fellow-citizens? Of that band of benefactors of the human race, the founders of the constitution of the United States, James Madison is the last who has gone to his reward. Their glorious work has survived them all. They have transmitted the precious bond of union to us, now entirely a succeeding generation to them. May it never cease to be a voice of admonition to us of our duty to transmit the inheritance unimpaired to our children of the rising age.

MRS. JAMES MADISON.

The parents of Mrs. Madison, whose maiden name was Dolly Payne, were natives of Virginia. She was however born in North Carolina, while her mother was on a visit to some of her friends in that State. Not long after their marriage, her parents joined the society of Friends or Quakers, manumitted their slaves, and removed to Pennsylvania. Their daughter was educated in Philadelphia in all the strictness of the sect to which the family belonged. She was, therefore, but little indebted to acquired graces and accomplishments for the admiration and regard which followed her wherever she was known. To much personal beauty, she added a warm heart and a kind and benevolent disposition; charms and attractions which won for her not only admirers but friends.

At an early age she was married to Mr. Todd, a young lawyer of Philadelphia, and also a member of the society of Friends. This connexion was of short duration. She was soon left a widow with an infant son. Her father being also dead, she went to live with her surviving parent, who had fixed her residence in the same city. Here her beauty and engaging manners secured her many admirers and brought her several advantageous offers of marriage. Among those who sought her hand she gave the preference to Mr. Madison, at that time a distinguished member of Congress, to whom she was married in 1794.

From this time to the time of Mr. Madison's appointment as Secretary of State, she resided at Montpelier on Mr. Madison's paternal estate. Here she entertained her numerous friends and guests with an abundant and cordial hospitality. Her mother and sisters lived with her; and the regard and kindness with which her husband treated them, was repaid on her part by similar attentions to the happiness and comfort of his aged mother, who continued to live with her son.

On Mr. Jefferson's election to the Presidency, in 1801, Mr. Madison was appointed Secretary of State, and in April of that year removed his family to Washington. We cannot better describe the manner in which she acquitted herself in the new and elevated station to which she was now raised, than in the language of a memoir in the National Portrait Gallery, a work of great merit. 'The President's house was the seat of hospitality, where Mrs. Madison always presided (in the absence of Mr. Jefferson's daughters) when there were female guests. After the President's, the house of the Secretary of State was the resort of most company. The frank and cordial manners of its mistress gave a peculiar charm to the frequent parties there assembled. All foreigners who visited the seat of government; strangers from the different States of the Union, the heads of departments, the diplomatic corps, senators, representatives, and citizens, mingled with an ease and freedom, a sociability and gaiety, to be met with in no other society. Even party spirit, virulent and embittered as it then was, by her gentleness was disarmed of its asperity. Individuals who never visited at the President's, nor met at the other ministerial houses, could not resist the softening influences of her conciliatory disposition, of her frank and gracious manners, but frequented her evening circle, and sat at her husband's table; a table that was covered with the profusion of Virginian hospitality, rather than with the elegance and refinement of European taste. The lady of a foreign minister was once ridiculing the enormous size and number of the dishes with which the board was loaded, and observed, that it was more like a harvest-home supper, than the entertainment of a Secretary of State. Mrs. Madison heard of this and similar remarks, and only observed with a smile, that she thought abundance was preferable to elegance; that circumstances formed customs, and customs formed taste; and as the profusion, so repugnant to foreign customs, arose from the happy circumstance of the superabundance and prosperity of our country, she did not hesitate to sacrifice the delicacy of European taste, for the less elegant, but more liberal fashion of Virginia. The many poor families daily supplied from that profusely spread table, would have had reason to regret the introduction of European fashion, had Mrs. Madison been prevailed on to submit to its dictation.

'During the eight years that Mr. Madison was Secretary of State, he and his family lived with the inhabitants of Washington as with fellow-citizens; receiving and reciprocating civilities in the most kind and friendly manner. The Secretary himself, being wholly absorbed in public business, left to Mrs. Madison the discharge of the duties of social intercourse. And never was a woman better calculated for the task. Exposed, as she necessarily must have been in so conspicuous a situation, to envy, jealousy, and misconstruction, she so managed as to conciliate the good-will of all, without offending the self-love of any of the numerous

competitors for her favor and attention. Every visiter left her with the pleasing impression of being an especial favorite, of having been the object of peculiar attention. She never forgot a name she had once heard, nor a face she had once seen, nor the personal circumstances connected with every individual of her acquaintance. Her quick recognition of persons; her recurrence to their peculiar interests, produced the gratifying impression, in each and all of those who conversed with her, that they were especial objects of regard.

'Her house was very plainly furnished, and her dress in no way extravagant. It was only in hospitality and in charity that her profusion was unchecked, and sometimes made her sensible that her income was not equal to her wishes.'

The amiable and engaging qualities which have been described, characterized Mrs. Madison through the whole of her husband's public life. In the midst of the bitterness of party spirit and the violence of political animosity, she was mild and courteous to all. The political assailants of her husband she treated with a kindness, which disarmed their hostility of its individual rancor, and sometimes even converted political enemies into personal friends, and still oftener succeeded in neutralizing the bitterness of opposition. During the last war her courage and firmness were put to a severe test. In August, 1814, the British troops landed forty miles below Washington, and approached that city. The President left the city to hold a council of war. Before his departure, he anxiously inquired whether she had courage or firmness to remain in the President's house until his return on the morrow or succeeding day. She assured him she had no fear but for him and the success of our army. When the President reached Bladensburgh he unexpectedly found the two armies engaged. Meanwhile terror spread over the city. All who could obtain conveyances fled to the adjoining towns. The sound of the cannon was distinctly heard, and universal dismay and confusion prevailed. Some personal friends who had remained with Mrs. Madison strongly urged her to leave the city. They had her carriage brought to the door, but could not persuade her to enter it till her husband should return and accompany her. And she did not finally depart till several messengers had been despatched to bid her fly.

We close this sketch in the words of the memoir from which we have already quoted. 'Much as she graced her public station, she has been not less admirable in domestic life. Neighborly and companionable among her country friends, as if she had never lived in a city; delighting in the society of the young, and never better pleased than when promoting every youthful pleasure by her participation; she still proved herself the affectionate and devoted wife during the years of suffering health of her excellent husband. Without neglecting the duties of a kind hostess, a faithful friend and relative, she smoothed and enlivened, occupied and amused the languid hours of his long confinement. He knew, appreciated, and acknowledged the blessing which heaven had bestowed on him in giving him such a wife.'

From Professor Silliman's Journal.

LEWIS WETZEL.*

Amongst the heroes of border warfare, Lewis Wetzel held no inferior station. Inured to hardships while yet in boyhood, and familiar with all the varieties of forest adventure, from that of hunting the beaver and the bear, to that of the wily Indian, he became one of the most celebrated marksmen of the day. His form was erect, and of that height best adapted to activity, being very muscular, and possessed of great bodily strength. From constant exercise, he could, without fatigue, bear prolonged and violent exertion, especially that of running and walking; and he had by practice acquired the art of loading his rifle when running at full speed through the forest, and wheeling on the instant, he could discharge it with unerring aim, at the distance of eighty or one hundred yards, into a mark not larger than a dollar. This art he has been known more than once to practise with fatal success on his savage foes.

A marksman of superior skill was in those days estimated by the other borderers much in the same way that a knight templar, or a knight of the cross, who excelled in the tournament or the charge, was valued by his cotemporaries in the days of chivalry. Challenges of skill often took place; and marksmen who lived at the distance of fifty miles or more from each other, frequently met by appointment, to try the accuracy of their aim, on bets of considerable amount. Wetzel's fame had spread far and wide, as the most expert and unerring shot of the day. It chanced that a young man, a few years younger than himself, who lived on Dankard's creek, a tributary of the Monongahela river, which waters one of the earliest settlements in that region, heard of his fame, and as he also was an expert woodsman, and a first-rate shot, the best in his settlement, he became very desirous of an opportunity for a trial of skill. So great was his desire, that he one day shouldered his rifle, and whistling his faithful dog to his side, started for the neighborhood of Wetzel, who, at that time, lived on Wheeling creek, distant about twenty miles from the settlement on Dankard's creek. When about half way on his journey, a fine buck sprang up just before him. He levelled his gun with his usual precision, but the deer, though badly wounded, did not fall dead in his tracks. His faithful dog soon seized him and brought him to the ground, but while in the act of doing this, another dog sprang from the forest upon the same deer, and his master making his appearance at the same time from behind a tree, with a loud voice claimed the buck as his property, because he had been wounded by his shot, and seized by his dog. It so happened that they had both fired at once at this deer, a fact which may very well happen where two active men are hunting on the same ground, although one may fire at the distance of fifty yards, and the other at one hundred. The dogs felt the same spirit of rivalry

* Received from a gentleman of my acquaintance, to whom one of the party related the story, a few years after the transaction took place; and with which my friend was also familiar from the narration of others.

with their masters, and quitting the deer, which was already dead, fell to worrying and tearing each other. In separating the dogs, the stranger hunter happened to strike that of the young man. The old adage, 'strike my dog, strike myself,' arose in full force, and without further ceremony, except a few hearty curses, he fell upon the hunter, and hurled him to the ground. This was no sooner done than he found himself turned, and under his stronger and more powerful antagonist. Discovering that he was no match at this play, the young man appealed to the trial by rifles, saying it was too much like dogs, for men, and hunters, to fight in this way. The stranger assented to the trial, but told his antagonist that before he put it fairly to the test, he had better witness what he was able to do with the rifle, saying, that he was as much superior, he thought, with that weapon, as he was in bodily strength. He bid him place a mark the size of a shilling on the side of a huge poplar that stood beside them, from which he would start with his rifle unloaded, and running a hundred yards at full speed, he would load it as he ran, and wheeling, would discharge it instantly to the centre of the mark. The feat was no sooner proposed than performed; the ball entered the centre of the diminutive target; astonished at his activity and skill, his antagonist instantly inquired his name. Lewis Wetzel, at your service, answered the stranger. The young hunter seized him by the hand with all the ardor of youthful admiration, and at once acknowledged his own inferiority. So charmed was he with Wetzel's frankness, skill, and fine personal appearance, that he insisted upon his returning with him to the settlement on Dankard's creek, that he might exhibit his talents to his own family, and to the hardy backwoodsmen, his neighbors. Nothing loath to such an exhibition, and pleased with the energy of his new acquaintance, Wetzel consented to accompany him; shortening the way with their mutual tales of hunting excursions and hazardous contests with the common enemies of the country. Amongst other things, Wetzel stated his manner of distinguishing the footsteps of a white man from those of an Indian, although covered with mocasins, and intermixed with the tracks of savages. He had acquired this tact from closely examining the manner of placing the feet; the Indian stepping with his feet in parallel lines, and first bringing the toe to the ground; while the white man almost invariably places his feet at an angle with the line of march. An opportunity they little expected soon gave room to put his skill to the trial. On reaching the young man's home, which they did that day, they found the dwelling a smoking ruin, and all the family lying murdered and scalped, except a young woman who had been brought up in the family, and to whom the young man was ardently attached. She had been taken away alive, as was ascertained by examining the trail of the savages. Wetzel soon discovered that the party consisted of three Indians and a renegado white man, a fact not uncommon in those early days, when, for crime or the love of revenge, the white outlaw fled to the savages, and was adopted on trial into their tribe.

As it was past the middle of the day, and the nearest assistance still at some considerable distance, and there were *only four* to contend with, they decided on instant pursuit. As the deed had very recently been done, they hoped to overtake them in their camp that night, and perhaps before they could cross the Ohio river, to which the Indians always retreated after a successful incursion, considering themselves in a manner safe when they had crossed to its right bank, at that time occupied wholly by the Indian tribes.

Ardent and unwearied was the pursuit, by the youthful huntsman; the one, excited to recover his lost mistress, the other, to assist his new friend, and to take revenge for the slaughter of his countrymen; slaughter and revenge being the daily business of the borderers at this portentous period.* Wetzel followed the trail with the unerring sagacity of a blood hound; and just at dusk traced the fugitives to a noted war path, nearly opposite to the mouth of Captina creek, emptying into the Ohio, which, much to their disappointment, they found the Indians had crossed, by forming a raft of logs and brush, their usual manner when at a distance from their villages. By examining carefully the appearances on the opposite shore, they soon discovered the fire of the Indian camp in a hollow way, a few rods from the river. Lest the noise of constructing a raft should alarm the Indians, and give notice of the pursuit, the two hardy adventurers determined to swim the stream a few rods below. This they easily accomplished, being both of them excellent swimmers; fastening their clothes and ammunition in a bundle on the tops of their heads, with their rifles resting on the left hip, they reached the opposite shore in safety; after carefully examining their arms, and putting every article of attack or defence in its proper place, they crawled very cautiously to a position which gave them a fair view of their enemies, who, thinking themselves safe from pursuit, were carelessly reposing around their fire, thoughtless of the fate that awaited them. They instantly discovered the young woman, apparently unhurt, but making much moaning and lamentation, while the white man was trying to pacify and console her with the promise of kind usage, and an adoption into the tribe. The young man, hardly able to restrain his rage, was for firing and rushing instantly upon them. Wetzel, more cautious, told him to wait until daylight appeared, when they could make the attack with a better chance of success, and of also killing the whole party, but if they attacked in the dark, a part of them would certainly escape.

As soon as daylight dawned, the Indians arose and prepared to depart. The young man selecting the white renegado, and Wetzel an Indian, they both fired at the same time, each killing his man. The young man rushed forward knife in hand, to relieve the young woman, while Wetzel reloaded his gun and pushed in pursuit of the two surviving Indians, who had taken to the woods, until they could ascertain the number of their enemies. Wetzel, as soon as he saw that he was discovered,

* Between 1782 and 1784.

discharged his rifle at random, in order to draw them from their covert. Hearing the report, and finding themselves unhurt, the Indians rushed upon him before he could again reload; this was as he wished; taking to his heels, Wetzel loaded as he ran, and suddenly wheeling about, discharged his rifle through the body of his nearest, but unsuspecting enemy. The remaining Indian, seeing the fate of his companion, and that his enemy's rifle was unloaded, rushed forward with all energy, the prospect of prompt revenge being fairly before him. Wetzel led him on, dodging from tree to tree, until his rifle was again ready, when suddenly turning, he shot his remaining enemy, who fell dead at his feet. After taking their scalps, Wetzel and his friend, with their rescued captive, returned in safety to the settlement. Like honest Joshua Fleeheart, after the peace of 1795, Wetzel pushed for the frontiers on the Mississippi, where he could trap the beaver, hunt the buffalo and the deer, and occasionally shoot an Indian, the object of his mortal hatred. He finally died as he had always lived, *a free man of the forest.*

THE MOSQUE OF THE BLOODY BAPTISM.

In the city of Cairo in Egypt stands a mosque with the above name, the history of which is singular and romantic. It was recently visited by the Rev. George Jones, Chaplain of the United States ship Delaware, who since his return has published an interesting account of his excursions. We copy from his work the following sketch of its origin. Its history, as Mr. Jones remarks, has a strong dash of the Arabian Nights, and yet is solemn truth, that may be told in open day. It is the largest, and in its architecture the most imposing mosque in Cairo. It is massy, and ornamented with heavy mouldings; and though of the Saracenic style, is a solid and substantial building. And now for its history.

About two centuries ago lived Sultan Hassan, a sovereign prosperous and beloved, but withal somewhat eccentric. He had every thing to make him contented, but there rose up in him, by and by, a strong desire to travel. He longed to see foreign lands; to study the living world; to hear the sages of other climes; and, if possible, to turn philosopher himself. The royalty that acted as a barrier to the gratification of his wishes, became at length odious to him, and he determined for a while to lay it aside, and to travel as a private individual. He sent, therefore, for his prime minister or Vizier, and after a confidential interview, delivered to him in trust, during the sovereign's absence, the sceptre of honor and the throne of state. He himself left the kingdom, and all traces of him were speedily lost. He now assumed the appearance of a merchant, and under this character travelled through many and far distant lands. He went wherever curiosity enticed him, toiling on from place to place, in hopes that at each it would still its unquiet yearnings and be satisfied; he studied man in every variety of character; he conversed with the wise men of every country, and at length he became a wise man himself, which was evinced by a resolution to return forthwith and be contented at home. Curiosity, he found, only gathered strength by each gratification; the world and its notions were a greater puzzle to him than at the beginning; and what little he knew of them, made him afraid to examine further; and as to wisdom itself, he found it every where less valued than money, and was astonished to see even himself, by and by, deserting the pursuit of it for the pursuit of wealth. He was rapidly successful in his dealings, and grew very rich; and now, ending where he had begun in his boyhood, with believing that Egypt was the best and happiest country in the world, he set out forthwith on his return.

But a disappointment awaited him. His faithless Vizier, concluding that the power which he found so agreeable for a short time, would be agreeable through life, had established himself firmly on the throne; and the old Sultan, on reaching the confines of his country, found that the very name of Hassan had been interdicted to his people, and that he was apparently forgotten. He kept his disguise, and, safe in the changes which time and exposure, and a long beard had wrought on his face, he travelled on, and found himself at length once more in Cairo. The wealthy merchant soon had many friends, and his business continuing to prosper, he applied by and by for permission to erect a mosque, as an act of thanksgiving to Allah for his numerous favors. The request was granted, and the foundations of this mosque, closely adjoining the citadel, were laid with the usual ceremonies. Under pretext of strengthening the edifice in so unstable a soil, he laid the groundwork strong and deep, and secured it moreover with numerous arches or vaults. The building rose, and the populace came in multitudes to look at the huge edifice, and praise the piety of the liberal-handed merchant, who before long found that he had established a throne, at least in the hearts of the people. He was aiming, however, at a more substantial throne. He had by this time filled the deep vaults with men, whom by liberal pay he had engaged to wait there for his bidding, and whom he daily practised with the scimitar, till there was not one among them who could not at a blow sever without disarranging the light tuft of down, the acme of a Turkish swordman's ambition. The edifice was finished, and a grand building it really is; and the new courtiers, in their way back and forth between the palace and the city, stopped to applaud the zeal of the pious merchant; nor dreamed for a moment of the pandemonium beneath. It is customary when a mosque is consecrated to give it also a name; and this having now been finished, a day was appointed for these ceremonies; and as the edifice was so highly ornamental to the city, the Sultan himself consented to grace the occasion with his presence. He came with a great retinue of courtiers and a line of guards; and splendid indeed was the scene within the proud and stately edifice. The merchant himself was placed in a conspicuous and an honorable station. The ceremony commenced, and the prayers were said; and the Mufti at length, turning to the merchant, bade him pronounce the

name by which his pious offering to Allah should be known. He rose from his seat, and while all leaned forward to catch the sound, he replied, 'Call it Sultan Hassan.' The multitude started, as if each had been bitten by a serpent, and the Mufti grew pale; but recovering himself, demanded if he had heard him aright. 'Yes,' he cried, as a curtain rose at one end and disclosed the name in large letters of gold; 'call it by my name, by that of your sovereign, Sultan Hassan;' and at the words, his myrmidons, who had been led up from the vaults and distributed through the church, falling on the astonished usurper and his train, put them all to the sword. From thence they rushed to the citadel, of which they got possession; and before the sun went down, Sultan Hassan was once more proclaimed sovereign of Egypt.

THE GREAT BIRD OF PARADISE.

Birds of Paradise, like crows, have the bill straight, compressed, strong, and notchless, and the nostrils covered, but with feathers of a velvet or metallic lustre, with a singular and splendid developement of the plumage of several parts of the body. Although they are found in Japan, China, Persia, and various regions of India, they are believed to be originally natives of New Guinea. Their history, till of late, was involved in fable; for they were said never to alight on the ground from their birth to their death, to subsist entirely on dew, and to be produced without legs. The circumstance which gave rise to the last-mentioned tale was merely accidental, the legs and coarser parts of the wings having been pulled off, in the course of preparing the birds as an ornamental article of dress. The Dutch used to procure them chiefly from Banda, and propagated the story of their want of limbs, with a view to enhance their value. The Portuguese navigators to the Indian islands called them *Passaros da Sol*, or *Birds of the Sun*, in the same manner as the Egyptians regarded the imaginary phœnix as a symbol of the annual revolution of the great luminary. The inhabitants of the island of Ternate call them *Manuco-Dewata*, or *Birds of God*, which Buffon has Frenchified into *Manu-code*. But his countryman, Vieillot, has more satisfactorily illustrated the tribe, in a magnificent publication entitled *Histoire Naturelle des Oiseaux de Paradis*. As no intelligent European, however, has watched their proceedings in a state of nature, their habits and economy are still obscure.

The species of which we have given an engraving is called *Paradisea major*, or Great Bird of Paradise. It is of a cinnamon hue, the crown is luteous, the throat is golden green or yellow, and the side feathers very long and floating. We have adopted Dr. Shaw's specific epithet, because that of Linne, (*Apoda, without feet,*) being deduced from fable, might tend to perpetuate error.

The length of this species, from the point of the bill to the end of the real tail, is about twelve inches; but, if measured from the tip of the bill to the termination of the long hypochondroid feathers, the result will be nearly two feet.

Pigafetta, having had ocular demonstration of the existence of the legs in this species, and of the natives cutting them off previously to selling them, recorded the facts in his journal; but so rooted was the contrary notion in Europe, that Aldrovandus charged Pigafetta with an audacious falsehood, and the acute Scaliger still adopted the popular persuasion. It was, moreover, supposed, that these birds perpetually floated in the atmosphere, or suspended themselves, for a short time, by the naked shafts, that they never descended to the earth till their last hour, and that all which had been procured, had fallen from their aerial elevation, during the moments immediately preceding their fate.

The great birds of paradise are found in the Molucca islands, and in those surrounding New Guinea, particularly Papua and Aru, where they arrive with the westerly or dry monsoon, and whence they return to New Guinea, on the setting in of the easterly, or wet monsoon. They are seen, going and returning, in flights of thirty or forty, conducted by a leader, which flies higher than the rest, and crying like starlings in their progress, preserving their light and voluminous plumage in proper trim, by invariably moving against the wind. In consequence of a sudden shifting of the wind, however, their long scapular feathers are sometimes so much discomposed as to preclude flight, when they fall to the ground, or are lost in

the water. In the former case, they cannot easily reascend, without gaining an eminence, and are taken by the natives, and killed on the spot. They are likewise caught with bird-lime, shot with blunted arrows, or intoxicated, by putting the berries of *Menispermum cocculus* into the water which they are accustomed to drink. Their real food is not known with certainty; according to some, they eat the red berries of *Ficus benjamina*, or the waringa tree, whilst others allege, that they are particularly fond of nutmegs; some again, assert, that they live on the larger moths and butterflies, and others, that they prey on small birds; and it is not improbable, from the structure of their bill and claws, that they subsist both on animal and vegetable food. It is only for ornament that they are coveted by the inhabitants of the east, the chiefs wearing them on their turbans. The grandees of Persia, Surat, and the East Indies, use them as egrets, or head ornaments, and even adorn their horses with them. A specimen of the greater paradise bird was once brought to England in a living state, but it had entirely lost its beautiful floating feathers, and did not long survive its arrival.

A YANKTOANA HORSE FIGHT.

I have seen bull baits in Mexico, and among the refined amusements of my youth have enjoyed the ecstacies of a cockpit, and many a battle royal between two contending mastiffs, to say nothing of an occasional set-to myself; but a regular horse-fight, among the Yanktoana Indians on the sources of the Missouri river, beats them all hollow.

I feel incapable of picturing to your mind in a letter, a scene so gladiatorial as that which has just taken place in this city between two Indian stud ponies; because you cannot, without being an eye-witness, imagine the various modes and the skill by which their attacks and repulses were directed.

This scene possessed a more than ordinary interest to us, who were anxious to read the Indian character from a book of nature, instead of taking it from the fancy pictures drawn in modern novels. Here we had the soul and substance of the animal indulging in the native cruelty of his nature. Some five or six hundred Indians, of all ages and both sexes, surrounding two ponies of more than ordinary size, in an artificial basin, formed at the base of two Indian mounds, about sixty feet high. The spectators were variously attired and unattired, in the most fantastic manner imaginable, with faces and shaved heads painted in the deepest colors, gaudy plumes waving from their crowns, bright trinkets hanging from noses and ears, their arms and legs loaded with shining clasps, and small looking glass ornaments suspended from their necks. About forty chiefs were mounted, provided with large clubs, who performed the duties of whippers-in, and to keep the antagonists from desertion. A loud and tremendous yell—a whoop from the whole tribe who were present, gave the signal for the onset. The mounted chiefs commenced beating the combatants most unmercifully, and forcing them with their clubs and horses upon each other, when they soon began a simultaneous attack by biting and kicking, and this was done with such consummate skill, in parrying each other's blows, that we were compelled to believe they actually entered into the sport, and understood the science of the game they were playing. All this was amidst the most deafening yells of applause and approbation by the spectators, who were grouped in the most picturesque manner. Their attacks were by kicking sideways, and biting at the same time; then turning, and after eyeing each other like two cocks, they would rear and plunge their fore feet into their opponents' breasts, like two battering rams coming together, until one seized the other by the neck, and in a twinkling laid him prostrate, and held him down for near half a minute. This part was a perfect wrestling scene. They often showed symptoms of exhaustion, at which the Indians beat them on to the fight the harder; nor was the battle ended until after about one hour's constant struggle, when one of them was entirely done over and yielded unresistingly to the victor. They were a complete gore of blood, their skin being lacerated and laid open in places all over their bodies, besides being covered with bruises which had swollen in large bunches, and nearly all the teeth were knocked out of their heads. The next day I examined them, neither of which could stand upon his legs. They had been trained two years for this exhibition of savage cruelty. The festivities of the day closed with a war-dance, and a fancy ballette among the squaws!—*New York Star.*

SOURCES OF THE DANUBE.

The following extract is from an interesting narrative of a journey to Constantinople by the Danube.

As soon as I reached Donauschingen I desired to see the source of the Danube. I was conducted into the gardens of the castle of Furstemberg, and there I was shown a beautiful fountain at the bottom of a marble basin. There was on the surface of the water a sort of bubbling, which gives a sign that the water is in motion, although this motion is scarcely perceptible. The water raises itself in semi-globules, without losing any thing of its clearness and calmness. No murmur, no foam —Mythology would not have failed to show some sleeping nymph at the bottom of the grotto, and her respiration causing the palpitation on the surface. I said to my guide, is this really the source of the Danube. Yes, sir. A goblet is prepared for the curious who wish to drink of the waters of the Danube. I tasted, and found it excellent. I then followed the fountain, which escaping from its basin, poured itself out in streams, over which I could jump with my feet joined, and spread itself over the gardens. I leaped over it with great joy, promising myself soon to arrive at its mouth, where I might say to it, as old men say to the young, I have seen you when you were very little. Now I said to myself, I have only to follow the river to the Black Sea, we will separate no more till we reach it.

African Wild Dogs.

AFRICAN WILD DOGS.

The above accurate representation of the wild dogs is copied from an interesting work, entitled 'Travels and Adventures in Southern Africa, by George Thompson, Esq. eight years a resident at the Cape.' Burchell has ranked this animal as a species of hyæna, under the name of *Hyæna Venatica*. Other naturalists class it as a new genus. It forms, in fact, the connecting link between the wolf and hyæna tribes; and in its habits and physical conformation partakes of the character of both. Wild dogs always hunt in packs, and are exceedingly fierce and active. In some quarters of the Cape colony, their ravages upon the flocks and on the young horses and cattle are very severely felt by the farmers. Thompson mentions one farmer who had had, within a few days, nine fine young horses killed by the wild dogs. It would require great profits to compensate for the losses and vexations to which the frontier farmers and herdsmen are thus constantly exposed. Of all the beasts of prey against which they are obliged to protect their flocks, the wild dogs are the most formidable and destructive.

TAK SISSION.

I suppose neither yourself nor your readers have ever heard of Tak Sission; and as he was quite an interesting character, I will give you a short account of him.

Thomas Sission, a very wealthy and respectable farmer, lived in Tiverton, Rhode Island, before and during the American Revolution. He had twelve slaves; the father, mother, and ten children. Among the children was one called Tak—Tak Sission. Tak, from early childhood to adult age, could never be prevailed on to eat any flesh meat; but he subsisted on vegetable food and milk; neither could he ever be persuaded to eat high seasoned food of any kind. When he was a child, his parents used to scold him severely, and threaten to whip him, because he would not eat flesh. They told him if he did not eat meat, he would never be good for anything; but would always be a poor puny creature.

But Tak persevered in his vegetable and unstimulating diet; and, to the surprise of all, grew fast, and his body was finely developed and athletic; he was very strong and robust, and altogether the most vigorous, active, and dexterous of any of the family. He finally became more than six feet high, and every way well proportioned, and remarkable for his agility and strength. He was so uncommonly shrewd and bright, and strong and active, that he became notorious for his shrewdness, and for his feats of strength and agility. Indeed, he was so full of his playful mischief, that he greatly annoyed the overseer.

During the Revolution, Tak was sent by his master into the army, to serve as a substitute for another man who was drafted. When Colonel Barton took General Prescott on Long Island, Tak was one of Colonel Barton's chosen men; and the one on whom he most depended. Having entered the house where General Prescott was quartered, Colonel Barton, followed by Tak and two or three others, proceeded silently to the door of the chamber where General Prescott was sleeping. The Colonel finding the door fastened, turned and whispered to Tak, 'I wish that door opened, General Prescott taken, and carried by the

guard to the boat, without the least noise or disturbance.'

Tak stepped back two or three paces, then plunging violently against the door, burst it open, and rushed into the middle of the room. At the same instant General Prescott sprang from his bed and seized his gold watch, hanging upon the wall. Tak sprang upon him like a tiger, and clasping the general in his brawny arms, and in a low, stern voice—'One word, and you are a dead man!' Then hastily snatching the general's cloak and wrapping it round his body, and at the same time telling his companions to take the rest of his clothes, he took the General in his arms, as if a child, and ran with him by the guard towards the boat, followed by Colonel Barton and the rest of his little company. I need add only, that they succeeded in reaching the boat, and escaping from the Island with their prisoner, without giving the least alarm.

Tak Sission lived many years after the close of the war, and attained to great age; remarkable through life for his activity, strength, and shrewdness.

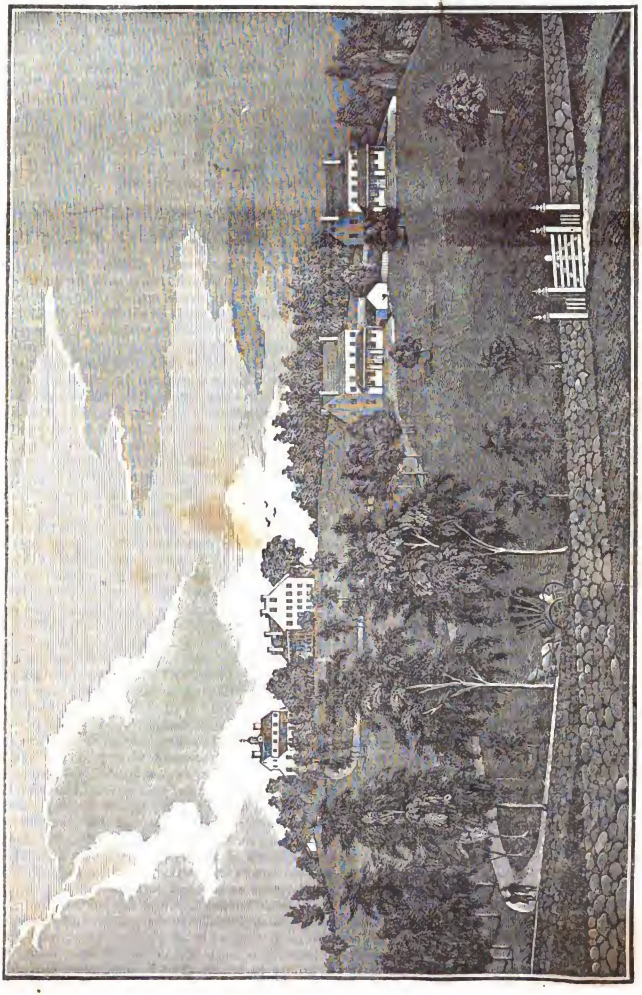
A VINDICTIVE MONKEY.

We find in a French paper a curious account of a trick played by a monkey in Marseilles in November last, which shows that the animal must possess a large share of sagacity as well as an unforgiving disposition. A painter was busily employed in decorating with fancy colors, some carved work on the stern of a French brig which lay in the harbor—and had a stage suspended from the taffrail for that purpose. A monkey which belonged to the captain of an American vessel, moored almost in contact with the stern of the brig, appeared much interested in the progress of the decorations, and watched the artist very closely; and occasionally as if he wished to criticise or ridicule the performance, he would grin and chatter most furiously. The painter, although at first amused, soon became indignant at the insolent bearing of the monkey, and while Jacko was in the midst of a critical dissertation, and appeared hugely tickled at being able to discompose the nerves of the painter, the latter thrust his largest brush, well charged with a beautiful verdigris green, full in the mouth of the chattering quadruped. Jacko retreated to his habitation, exhibiting manifest signs of wrath and indignation. The captain of the vessel, who was well acquainted with the character of the monkey, who would never suffer a trick to be played upon him, without retorting in kind, advised the painter to be particularly cautious, or the monkey would do him some injury. The painter, however, laughed at the idea, and soon after left his work, and entered a coffee-house on the quay, where, in drinking a cup of coffee, and in conversation with some friends, he passed half an hour. In his absence the monkey left his retreat, and passed through a port on to the painter's stage, where all his pots, brushes, &c. were deposited. He commenced an attack on the ropes which held the stage, and employed his time so well, that before the painter appeared, two of them were nearly severed, and when the unsuspecting artist placed his foot on the stage, for the purpose of resuming his work, the ropes broke, and painter, pots, paints and brushes, were precipitated, without ceremony, into the dock. Then commenced the triumph of the monkey, who sprang to the gunwale, and while gazing on his floundering foe, he evinced his delight by his gesticulations and loud chatterings!

The artist was fished out, but his paints, of course, were lost, and his clothes were saturated with the briny fluid. His rage was unbounded. As soon as he was safely landed, he seized a club and rushed on board the vessel, threatening vengeance on the monkey, which he would undoubtedly have killed on the spot, had not Jacko wisely retreated to the main topmast cross trees, where he sat, looking down triumphantly on his enemy, who was pacing the deck, uttering imprecations innumerable. The painter then proceeded to his house, and returned with his fowling-piece well charged with buck-shot, determined to bring Jacko down by fair means or foul. And the captain, seeing the danger which was about to befall his mischievous favorite, appeased the anger of the painter by offering to pay him for the loss of his materials and the damage of his clothes. A treaty was concluded; but Jacko could not easily be convinced of the sincerity of the opposite party, and fearing some mishap, maintained his position on the cross trees for several days.

CHEERFULNESS.

Endeavor to preserve cheerfulness of deportment under the pressure of disappointment or calamity. 'Keep aloof from sadness,' says an Icelandic writer of the twelfth century, 'for sadness is a sickness of the soul.' That principle is weak at the root, which is unable to resist obstacles. The vessel is but ill-constructed that cannot retain its integrity against rough winds or an opposing tide. Life has many ills, but the mind that views every object in its most cheering aspect, and every doubtful dispensation as replete with latent good, bears within itself a powerful and perpetual antidote. The gloomy soul aggravates misfortune, while a cheerful smile often dispels those mists that portend a storm. Form a habit of *being* cheerful under adverse circumstances. 'Our happiness,' says a fine writer, ''tis a sacred deposit, for which we must give an account;' a serene and amiable temper is among its most efficient preservatives. Admiral Collingwood, in his letters to his daughter, says, 'I never knew your mother to utter a harsh or hasty thing to any person in my life.' Of Archbishop Leighton, it is related, by one qualified to judge, that 'during a strict intimacy of many years, he never saw him for one moment in any other temper than that in which he would wish to live and to die.' Though some may, with more ease than others, attain equanimity of character, yet the cheerfulness that surmounts care, disappointment, and sorrow, must be the result of cultivated principle, of persevering effort, and the solicited succor of the grace of God.—*Mrs. Sigourney.*



VIEW OF THE NEWTON THEOLOGICAL INSTITUTION, MASS.

NEWTON THEOLOGICAL INSTITUTION.

Among the Baptist ministers in New England, there were, from the beginning, some well educated men. The churches always preferred a learned minister, provided that he was also pious, and evidently designed by the Saviour to be a preacher of his gospel. But men of a liberal education could not be obtained, in sufficient numbers. Many of the ministers were, accordingly, men of limited mental cultivation; but, possessing fervent piety and sound minds, they preached the gospel with great simplicity, zeal, and success. Efforts were, at the same time, made, to increase the number of educated ministers. Some of the graduates of all the colleges, and especially of Brown University and Waterville College, became Baptist preachers. Instruction was given in theology by some private teachers. But there was, up to 1825, no seminary in New England for the exclusive purpose of instructing Baptist ministers in theology. In that year, measures were adopted, by the late Rev. Dr. Baldwin, Mr. Ensign Lincoln, Mr. Nathaniel R. Cobb, and others who yet survive, to erect a theological institution. It was, after much consultation and prayer, established at Newton, about seven or eight miles west of Boston. The Rev. Irah Chase, who had recently been Professor of the learned languages and of biblical literature in the Columbian College (D. C.), was appointed Professor of biblical theology, and he commenced instruction, in his own house, in December, 1825. A favorable site for the institution was purchased. The estate contained eighty-five acres, with a large mansion-house and out-buildings. Temporary accommodations were provided, on the estate, for the professors and pupils.

In February, 1826, an act was passed by the Legislature of Massachusetts, by which Joseph Grafton, Lucius Bolles, Daniel Sharp, Jonathan Going, Bela Jacobs, Ebenezer Nelson, Francis Wayland, Jr., Henry Jackson, Ensign Lincoln, Jonathan Bacheller, and Nathaniel R. Cobb, were incorporated by the name of "The Trustees of the Newton Theological Institution;" with power to increase the number of trustees to twenty-five; to hold property, the annual income of which shall not exceed $20,000, and to adopt whatever measures may be necessary to promote the prosperity of the institution.

In 1828, a brick building was erected, eighty-five feet long and forty-nine wide, three stories in height, besides a basement story; and with thirty-four rooms for students, to each of which is attached a bed room. It also contains a large apartment for the library, and another of the same size, now occupied as a reading room. This building cost about $10,000. Two convenient houses have since been erected for the professors. In the mansion-house are accommodations for the steward's family, a dining hall, a chapel, recitation rooms, and several rooms for students.

Additional professors have been appointed, at different times. The present faculty are,—Rev. Irah Chase, A. M., Professor of biblical theology; Rev. Henry J. Ripley, A. M., Professor of biblical literature and interpretation; Rev. James D. Knowles, A. M., Professor *pro tem.* of sacred rhetoric and pastoral duties; and Rev. Barnas Sears, A. M., Professor of ecclesiastical history.

The Board of Trustees now consists of the following gentlemen:—Rev. Daniel Sharp, D. D., President; Rev. Henry Jackson, Secretary; Levi Farwell, Esq., Treasurer; Rev. Lucius Bolles, D. D., Rev. Jonathan Going, D. D., Rev. Ebenezer Nelson, Rev. Francis Wayland, Jr., D. D., Jonathan Bacheller, Esq., Nicholas Brown, Esq., Mr. John B. Jones, Mr. Elijah Corey, Rev. Cyrus P. Grosvenor, Rev. Howard Malcom, Richard Fletcher, Esq., Rev. Charles Train, Rev. Baron Stow, Mr. David R. Griggs, Mr. Matthew Bolles, Jr., and Rev. Ebenezer Thresher.

The following extracts from the last catalogue of the institution present a brief statement of the qualifications for admission, the course of study, &c.

'*Qualifications for Admission.* The institution is adapted to the instruction of graduates, and others whose attainments enable them, along with graduates, to proceed profitably in theological studies. It is open for the admission of those persons only, who give evidence of their possessing genuine piety, with suitable gifts and attainments, and of their being influenced by proper motives in wishing to pursue theological studies, and who, moreover, present certificates from the churches of which they are members, approving of their devoting themselves to the work of the ministry.

'*Regular Course.* The regular course occupies three years, and embraces Biblical Literature and Interpretation (namely, the Hebrew and Chaldee languages, and the Greek of the New Testament; biblical geography and antiquities; lectures on the most important manuscripts, versions, and editions of the Bible, and the canonical authority of the several books; the interpretation of the Scriptures);—Biblical Theology (namely, examination of the evidences of Christianity; lectures and discussions on the Christian doctrines taught in the Bible, the subjects being systematically arranged, and the proofs and objections considered);—Ecclesiastical History (namely, exercises preparatory to church history, or an outline of the political and civil history of Christian nations, ecclesiastical geography and literary history, particularly of the church; a full course of lectures on the first six centuries; a summary history of the church during the middle ages; and a detailed history of the Reformation, and of the several Christian denominations from that time to the present);—and Sacred Rhetoric and Pastoral Duties (namely, lectures on sacred rhetoric; instruction on preparing skeletons of sermons; lectures on homiletics; instruction on constructing and delivering sermons; and lectures on pastoral duties).

'*Shorter Course.* While the regular course of study is vigorously sustained, suitable persons, though having only an English education, upon presenting the requisite certificates from the churches to which they belong, may, in special cases, be permitted to reside at the institution (subject to its rules, and with the approbation of its immediate government), for pursuing such a

shorter course, as shall be adapted to their ages and circumstances, and as shall be consistent with the regular duties of the professors. The shorter or select course is, ordinarily, to be made up of a selection from the most important English branches of study in the regular theological course; namely, biblical geography and oriental customs, general principles of interpreting the Scriptures, a series of theological subjects, ecclesiastical history, sacred rhetoric, and pastoral duties.

'*Expenses.* The expense of boarding at the institution, in ordinary seasons, does not exceed one dollar and fifty cents per week. Washing is at the rate of thirty-seven and a half cents per dozen. For fuel and light, the sum of seven or eight dollars a year is sufficient. A reasonable charge is made for fuel used in the lecture-rooms, and for other necessary public expenses. No charge is made for tuition, room-rent and furniture, or use of the library.

'*The Library*, at present, contains nearly three thousand volumes; and orders for a very valuable accession to it have recently been sent to Europe.

'*Reading Room.* The reading room is supplied with the principal religious and literary periodicals.

'*Anniversary.* The anniversary of the institution occurs on the last Wednesday but one in August.

'*Vacations.* There are two vacations in the year, each of six weeks; one commencing on the day of the anniversary, the other on the last Wednesday in March.'

According to the last catalogue, for 1836–7, the number of students was thirty-nine, viz., senior class, fourteen; middle class, twelve; junior class, eleven; shorter course, two.

More than a hundred young ministers have enjoyed the advantages of the institution, who are now actively engaged in promoting the cause of the Redeemer. They are in Asia, France, Africa, and Greece; in the British Provinces of New Brunswick and Nova Scotia, and in many States of our own country. These have all been Baptists; but young men of any Christian denomination, who possess the qualifications above mentioned, can enjoy all the benefits of the institution.

The seminary is beautifully situated on an elevated hill, which commands an extensive prospect of Boston and of the rich country around. It is a very healthy position, no death having yet occurred at the institution, among the students. It is hoped that the institution will be liberally supplied with funds, and will be enabled, with the divine blessing, to accomplish all the great objects which were contemplated by its founders.

THE FUTURE. It is perhaps for others, rather than ourselves, that the fond heart requires an hereafter. The tranquil rest—the shadow and the silence—the mere pause of the wheel of life, have no terror for the wise, who know the due value of the world—

> 'After the billows of a stormy sen,
> Sweet is at last the haven of repose.'

But not so, when the stillness is to divide us from others; when those we have loved with all the passion, the devotion, the watchful sanctity of the weak human heart, are to exist no more; when, after long years of desertion and widowhood on earth, there is no hope of reunion in that invisible world beyond the stars—then the torch, not of life only, but of love, is to be quenched in the fountain; and the grave, that we would fain hope is the great restorer of broken ties, is but the dumb seal of hopeless, utter, inexorable separation: and it is this thought, this sentiment, which makes religion out of love, and teacheth belief to the mourning heart, that in the gladness of united affections, it felt not the necessity of a heaven. To how many is the death of the beloved, the parent of faith!—*Bulwer.*

FARMING.

If one half the zeal, energy, and expense that bloat so many gazettes with low and coarse abuse, setting the community by the ears for the purposes of a few demagogues and office-keepers, were bestowed upon the advancement of agriculture; if the people were half as anxious to improve and beautify their fields as they are to settle the nation, and half as angry with thistles, thorns, and poor fences, as they are with political opponents, who probably wish as well to the country as themselves, we should have more productive fields, less complaints of poverty, and abundantly more good feeling. From Pittsburgh to New Orleans the son ploughs as his father did before him, and the great mass of farmers are as stationary in theory as they are in practice. Nine in ten of them believe, at this moment, that book farming is the mere useless, visionary dreaming of men, that know nothing about practical agriculture.

We would tell them that England is the garden of Europe, simply because almost every acre of the ground is cultivated scientifically, and on principles which have been brought to the test of the most rigid and exact experiment. We would tell them that New England, of whose soil and climate they are accustomed to think, as consigned by providence to sterility and inclemency, is the garden of the United States, only because the industrious and calculating people do not throw away their efforts in the mere exertion of brute strength; but bring mind, plan, system, and experience to bear upon the naturally hard and thankless soil.

On every side the passing traveller sees verdure, grass, and orchards in small and frequent enclosures of imperishable rock, and remarks fertility won from the opposition of the elements and nature. After an absence of ten years, on our return to that country, we were struck with this proud and noble triumph, conspicuous over the whole region.

The real benefactors of mankind, as St. Pierre has so beautifully said, are those who cause two blades of wheat to mature where one did before. The fields ought to be the morning and evening theme of Americans who love their country. To fertilize and improve his farm ought to be the prime temporal object of every owner of substan-

tial soil. All national aggrandizement, power, and wealth may be traced to agriculture, as its ultimate source. Commerce and manufactures are only subordinate results of the main spring.

We consider agriculture as every way subordinate, not only to abundance, industry, comfort, and health, but to good morals, and, ultimately, even to religion. We shall always say and sing, 'Speed the plough.' We shall always regard the American farmer, stripped to his employment, and tilling his grounds, as belonging to the first order of noblemen among us. We shall always wish him bountiful harvests, good beer, and moderate use of cider, and, if he will rear it himself, of the grape, but none of the pernicious gladness of whisky; and we shall only invoke upon his labors the blessing of God, and say of him, 'Peace be within thy walls.'—*T. Flint.*

HOPE AND MEMORY.

A little babe lay in the cradle, and Hope came and kissed it. When its nurse gave it a cake, Hope promised another to-morrow; and when its young sister brought a flower, over which it clapped its wings and crowed, Hope told of brighter ones which it would gather for itself.

The babe grew to a child, and another friend came and kissed it. Her name was Memory. She said, 'Look behind thee, and tell me what thou seest.' The child answered, 'I see a little book.' And Memory said, 'I will teach thee how to get honey from the book, that will be sweet to thee when thou art old.'

The child became a youth. Once when he went to his bed, Hope and Memory stood by the pillow. Hope sang a melodious song, and said, 'Follow me, and every morning thou shalt wake with a smile, as sweet as the pretty lay I sung thee.'

But Memory said, 'Hope, is there any need that we should contend? He shall be mine as well as thine. And we shall be to him as sisters all his life long.'

So he kissed Hope and Memory, as he was beloved of them both. While he slept peacefully, they sat silently by his side, weaving rainbow tissues into dreams. When he woke, they came, with the lark, to bid him good morning, and he gave a hand to each.

He became a man. Every day Hope guided him to his labor, and every night he supped with Memory at the table of Knowledge.

But at length age found him, and turned his temples gray. To his eye the world seemed altered. Memory sat by his elbow-chair, like an old and tried friend. He looked at her seriously, and said, 'Hast thou not lost something that I intrusted to thee?'

And she answered, 'I fear so; for the lock of my casket is worn. Sometimes I am weary and sleepy, and Time purloins my key. But the gems that thou didst give me when life was new—I can account for all—see how bright they are.'

While they thus sadly conversed, Hope put forth a wing, that she had not worn, folded under her garment, and tried its strength in a heavenward flight.

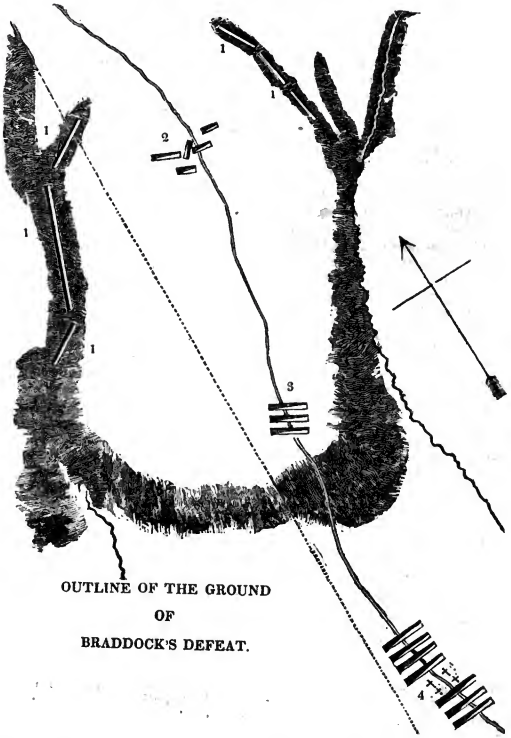
The old man laid down to die, and when his soul went forth from the body, the angels took it. And Memory walked with it through the open gate of heaven. But Hope lay down at its threshold and gently expired, as a rose giveth out its last odors. Her parting sigh was like the music of a seraph's harp. She breathed it into a glorious form and said, 'Immortal happiness! I bring thee a soul that I have led through the world. It is now thine; Jesus hath redeemed it.'—*Mrs. Sigourney.*

THE RICH MAN'S DAUGHTERS.

It is often said that the times are strangely altered; and certain it is that the people are. It was once thought honorable to labor, to be constantly engaged in some active and useful avocation; but now-a-days it is thought honorable to be idle. There is much complaint of the high price of every necessary of human existence, and with much truth. But if the amount of idleness could be calculated with mathematical accuracy throughout our extended republic, allowing the drones only half price for services they might perform which others are now paid for, it might not be an unsafe calculation to put down the whole amount now paid for provisions and marketing in the United States. It is not a little inconsistent to hear parents whine about the price of provisions, while they bring up their daughters to walk the streets, and expend money.

In one of our great commercial cities, there resides a gentleman worth from two to three millions of dollars. He had three daughters; and he required them alternately to go into the kitchen and superintend its domestic concerns. Health and happiness, he said, were thus promoted; besides, he could not say, in the vicissitudes of fortune, that they might not, ere they should close their earthly career, be compelled to rely upon their hands for a livelihood; and he could say that they never could become wives and the proper heads of a family, until they knew, by practical experience, all the economy of the household affairs. One of these daughters is now the lady of a governor of one of the States—all at the head of very respectable families—and they carry out the principles implanted by their worthy parent, winning and securing the esteem of all around them.

Let the fair daughters of our country draw lessons from the industrious matrons of the past. The companions of the men who fought the Revolution were inured to hardships and accustomed to unceasing toil, and so did they educate their daughters. Health, contentment, happiness, and plenty smiled around the family altar. The damsel who understood most thoroughly and economically the management of domestic matters, and who was not afraid to put her hands into a wash-tub, for fear of destroying their elasticity and dimming their snowy whiteness, were sought by the young men of those days as fit companions for life; but, now-a-days, to learn the mysteries of the household would make our fair ones faint away, and to labor, comes not into the code of modern gentility.



OUTLINE OF THE GROUND
OF
BRADDOCK'S DEFEAT.

BRADDOCK'S DEFEAT.

In the outline of the battle-field of Braddock's defeat, which we give above, and which is drawn on a scale of one hundred perches to a foot, the distance from the head of the ravine to the ford (which is represented by a straight line) is 188 perches. Figure 1 represents the ravines occupied by the French and Indians; figure 2, the advanced column of 300 men; figure 3, second column of 200 men; figure 4, the main army, under General Braddock. Such was the position of the parties at the commencement of the action.

Various accounts of Braddock's defeat have been written; but as in matters of history accuracy is the all-important point to be attended to, we give the following narrative, from Washington's Writings, which was written by Mr. Sparks. He obtained information respecting it from manuscript documents in England, which have never been published; and we lay it before our readers as being the most complete and correct account which has ever been published.

The defeat of General Braddock, on the banks of the Monongahela, is one of the most remarkable events in American history. Great preparations had been made for the expedition under that experienced officer, and there was the most sanguine anticipation, both in England and America, of its entire success. Such was the confidence in the prowess of Braddock's army, according to Dr. Franklin, that, while he was on his march to Fort Duquesne, a subscription paper was handed about in Philadelphia to raise money to celebrate his victory by bonfires and illuminations, as soon as the intelligence should arrive. When, therefore, the news of his total defeat and overthrow went abroad, the effect produced on the public mind was like the shock of an earthquake, unexpected and astounding. Of the possibility of such an issue no one had dreamed, and the expressions of

surprise, as well as of disappointment, were loud and universal. The consequences were alarming to the middle colonies, as their frontiers were left exposed to the ravages of the French and Indians, in which situation they continued till Fort Duquesne was taken by General Forbes, more than three years afterwards.

General Braddock landed in Virginia on the 20th of February, 1755, with two regiments of the British army from Ireland, the forty-fourth and forty-eighth, each consisting of five hundred men, one of them commanded by Sir Peter Halket, and the other by Colonel Dunbar. To these was joined a suitable train of artillery, with military supplies and provisions. The General's first head-quarters were at Alexandria, and the troops were stationed in that place and its vicinity, till they marched for Will's Creek, where they arrived about the middle of May. It took four weeks to effect that march. In letters written at Will's Creek, General Braddock, with much severity of censure, complained of the lukewarmness of the colonial governments, and tardiness of the people in facilitating his enterprise, the dishonesty of agents, and the faithlessness of contractors. The forces which he brought together at Will's Creek, however, amounted to somewhat more than two thousand effective men, of whom about one thousand belonged to the royal regiments, and the remainder were furnished by the colonies. In this number were embraced the fragments of two Independent Companies from New York, one of which was commanded by Captain Gates, afterwards a major-general in the Revolutionary war. Thirty sailors had also been granted for the expedition by Admiral Keppel, who commanded the squadron, that brought over the two regiments.

At this post the army was detained three weeks, nor could it then have moved, had it not been for the energetic personal services of Franklin, among the Pennsylvania farmers, in procuring horses and wagons to transport the artillery, provisions, and baggage. The details of the march are well described in Colonel Washington's letters. The army was separated into two divisions. The advanced division, under General Braddock, consisted of twelve hundred men besides officers. The other, under Colonel Dunbar, was left in the rear, to proceed by slower marches. On the 8th of July the General arrived with his division, all in excellent health and spirits, at the junction of the Youghiogany and Monongahela rivers. At this place Colonel Washington joined the advanced division, being but partially recovered from a severe attack of fever, which had been the cause of his remaining behind. The officers and soldiers were now in the highest spirits, and firm in the conviction, that they should, within a few hours, victoriously enter the walls of Fort Duquesne.

The steep and rugged grounds, on the north side of the Monongahela, prevented the army from marching in that direction, and it was necessary, in approaching the fort, now about fifteen miles distant, to ford the river twice, and march a part of the way on the south side. Early on the morning of the 9th all things were in readiness, and the whole train passed through the river a little below the mouth of the Youghiogany, and proceeded in perfect order along the southern margin of the Monongahela. Washington was often heard to say, during his lifetime, that the most beautiful spectacle he had ever beheld was the display of the British troops on this eventful morning. Every man was neatly dressed in full uniform, the soldiers were arranged in columns and marched in exact order, the sun gleamed from their burnished arms, the river flowed tranquilly on their right, and the deep forest overshadowed them with solemn grandeur on their left. Officers and men were equally inspirited with cheering hopes and confident anticipations.

In this manner they marched forward till about noon, when they arrived at the second crossing-place, ten miles from Fort Duquesne. They halted but a little time, and then began to ford the river and regain its northern bank. As soon as they had crossed, they came upon a level plain, elevated but a few feet above the surface of the river, and extending northward nearly half a mile from its margin. Then commenced a gradual ascent, at an angle of about three degrees, which terminated in hills of a considerable height at no great distance beyond. The road from the fording-place to Fort Duquesne led across the plain and up this ascent, and thence proceeded through an uneven country, at that time covered with wood.

By the order of march, a body of three hundred men, under Colonel Gage, made the advanced party, which was immediately followed by another of two hundred. Next came the General with the columns of artillery, the main body of the army, and the baggage. At one o'clock the whole had crossed the river, and almost at this moment a sharp firing was heard upon the advanced parties, who were now ascending the hill, and had got forward about a hundred yards from the termination of the plain. A heavy discharge of musketry was poured in upon their front, which was the first intelligence they had of the proximity of an enemy, and this was suddenly followed by another on their right flank. They were filled with the greater consternation, as no enemy was in sight, and the firing seemed to proceed from an invisible foe. They fired in their turn, however, but quite at random and obviously without effect, as the enemy kept up a discharge in quick and continued succession.

The General advanced speedily to the relief of these detachments; but before he could reach the spot, which they occupied, they gave way and fell back upon the artillery and the other columns of the army, causing extreme confusion, and striking the whole mass with such a panic, that no order could afterwards be restored. The General and the officers behaved with the utmost courage, and used every effort to rally the men, and bring them to order, but all in vain. In this state they continued nearly three hours, huddling together in confused bodies, firing irregularly, shooting down their own officers and men, and doing no perceptible harm to the enemy. The Virginia provincials were the only troops who seemed to retain their senses; and they behaved with a bravery and reso-

nation worthy of a better fate. They adopted the Indian mode, and fought each man for himself behind a tree. This was prohibited by the General, who endeavored to form his men into platoons and columns, as if they had been manœuvring on the plains of Flanders. Meantime the French and Indians, concealed in the ravines and behind trees, kept up a deadly and unceasing discharge of musketry, singling out their objects, taking deliberate aim, and producing a carnage almost unparalleled in the annals of modern warfare. More than half of the whole army, which had crossed the river in so proud an array only three hours before, were killed or wounded: the General himself had received a mortal wound, and many of his best officers had fallen by his side.

In describing the action a few days afterwards, Colonel Orme wrote to the governor of Pennsylvania;—'The men were so extremely deaf to the exhortation of the General and the officers, that they fired away in the most irregular manner all their ammunition, and then ran off, leaving to the enemy the artillery, ammunition, provision, and baggage; nor could they be persuaded to stop till they got as far as Gist's plantation, nor there only in part, many of them proceeding as far as Colonel Dunbar's party, who lay six miles on this side. The officers were absolutely sacrificed by their good behavior, advancing sometimes in bodies, sometimes separately, hoping by such example to engage the soldiers to follow them, but to no purpose. The General had five horses shot under him, and at last received a wound through his right arm into his lungs, of which he died the 13th instant. Secretary Shirley was shot through the head; Captain Morris, wounded. Colonel Washington had two horses shot under him, and his clothes shot through in several places, behaving the whole time with the greatest courage and resolution. Sir Peter Halket was killed upon the spot. Colonel Burton and Sir John St. Clair were wounded.' In addition to these, the other field-officers wounded were Lieutenant-Colonel Gage (afterwards so well known as the commander of the British forces in Boston, at the beginning of the Revolution), Colonel Orme, Major Sparks, and Brigade-Major Halket. Ten captains were killed, and five wounded; fifteen lieutenants killed, and twenty-two wounded. The whole number of officers in the engagement was eighty-six, of whom twenty-six were killed, and thirty-seven wounded. The killed and wounded of the privates amounted to seven hundred and fourteen. Of these at least one half were supposed to be killed. Their bodies, left on the field of action, were stripped and scalped by the Indians. All the artillery, ammunition, provisions, and baggage, every thing in the train of the army, fell into the enemy's hands, and were given up to be pillaged by the savages. General Braddock's papers were also taken, among which were his instructions and correspondence with the ministry after his arrival in Virginia. The same fate befell the papers of Colonel Washington, including a private journal and his official correspondence during his campaign of the preceding year.

No circumstantial account of this affair has ever been published by the French, nor has it hitherto been known from any authentic source what numbers were engaged on their side. Washington conjectured, as stated in his letters, that there were no more than three hundred, and Dr. Franklin, in his account of the battle, considers them at most as not exceeding four hundred. The truth is, there was no accurate information on the subject, and writers have been obliged to rely on conjecture.

In the archives of the *War Department*, at Paris, I found three separate narratives of this event written at the time, all brief and imperfect, but one of them apparently drawn up by a person on the spot. From these I have collected the following particulars.

M. de Contrecœur, the commandant of Fort Duquesne, received early intelligence of the arrival of General Braddock and the British regiments in Virginia. After his remove from Will's Creek, French and Indian scouts were constantly abroad, who watched his motions, reported the progress of his march, and the route he was pursuing. His army was represented to consist of three thousand men. M. de Contrecœur was hesitating what measures to take, believing his small force wholly inadequate to encounter so formidable an army, when M. de Beaujeu, a captain in the French service, proposed to head a detachment of French and Indians, and meet the enemy in their march. The consent of the Indians was first to be obtained. A large body of them was then encamped in the vicinity of the Fort, and M. de Beaujeu opened to them his plan, and requested their aid. This they at first declined, giving as a reason the superior force of the enemy, and the impossibility of success. But at the pressing solicitation of M. de Beaujeu, they agreed to hold a council on the subject, and to talk with him again the next morning. They still adhered to their first decision, and when M. de Beaujeu went out among them to inquire the result of their deliberation, they told him a second time that they could not go. This was a severe disappointment to M. de Beaujeu, who had set his heart upon the enterprise, and was resolved to prosecute it. Being a man of great good nature, affability, and ardor, and much beloved by the savages, he said to them, 'I am determined to go out and meet the enemy. What! will you suffer your Father to go out alone? I am sure we shall conquer.' With this spirited harangue, delivered in a manner that pleased the Indians, and won upon their confidence, he subdued their unwillingness, and they agreed to accompany him.

It was now the 7th of July, and news came that the English were within six leagues of the fort. This day and the next were spent in making preparations, and reconnoitering the ground for attack. Two other captains, Dumas and Liguery, were joined with M. de Beaujeu, and also four lieutenants, six ensigns, and two cadets. On the morning of the 9th they were all in readiness, and began their march at an early hour. It seems to have been their first intention to make a stand at the ford, and annoy the English while crossing the

river, and then retreat to the ambuscade on the side of the hill where the contest actually commenced. The trees on the bank of the river afforded a good opportunity to effect this manœuvre, in the Indian mode of warfare, since the artillery could be of little avail against an enemy, where every man was protected by a tree, and at the same time the English would be exposed to a point-blank musket-shot in fording the river. As it happened, however, M. de Beaujeu and his party did not arrive in time to execute this part of the plan.

The English were preparing to cross the river, when the French and Indians reached the defiles on the rising ground, where they posted themselves, and waited till Braddock's advanced columns came up. This was a signal for the attack, which was made at first in front, and repelled by so heavy a discharge from the British, that the Indians believed it proceeded from artillery, and showed symptoms of wavering and retreat. At this moment M. de Beaujeu was killed, and the command devolving on M. Dumas, he showed great presence of mind in rallying the Indians, and ordered his officers to lead them to the wings and attack the enemy in flank, while he with the French troops would maintain the position in front. This order was promptly obeyed, and the attack became general. The action was warm and severely contested for a short time; but the English fought in the European method, firing at random, which had little effect in the woods, while the Indians fired from concealed places, took aim, and almost every shot brought down a man. The English columns soon got into confusion; the yell of the savages, with which the woods resounded, struck terror into the hearts of the soldiers, till at length they took to flight, and resisted all the endeavors of their officers to restore any degree of order in their escape. The rout was complete, and the field of battle was left covered with the dead and wounded, and all the artillery, ammunition, provisions, and baggage of the English army. The Indians gave themselves up to pillage, which prevented them from pursuing the English in their flight.

Such is the substance of the accounts written at the time by the French officers, and sent home to their government. In regard to the numbers engaged, there are some slight variations in the three statements. The largest number reported is two hundred and fifty French and Canadians, and six hundred and forty-one Indians; and the smallest, two hundred and thirty-three French and Canadians, and six hundred Indians. If we take a medium, it will make the whole number led out by M. de Beaujeu at least eight hundred and fifty. In an imperfect return, three officers were stated to be killed, and four wounded; about thirty soldiers and Indians killed, and as many wounded.

When these facts are taken into view, the result of the action will appear much less wonderful, than has generally been supposed. And this wonder will be still diminished, when another circumstance is recurred to, worthy of particular consideration; and that is, the shape of the ground on which the battle was fought. This part of the description, so essential to the understanding of military operations, and above all in the present instance, has never been touched upon, it is believed, by any writer. We have seen that Braddock's advanced columns, after crossing the valley extending for nearly half a mile from the margin of the river, began to move up a hill, so uniform in its ascent, that it was little else than an inclined plane of a somewhat crowning form. Down this inclined surface extended two ravines, beginning near together, at about one hundred and fifty yards from the bottom of the hill, and proceeding in different directions till they terminated in the valley below. In these ravines the French and Indians were concealed and protected. At this day they are from eight to ten feet deep, and sufficient in extent to contain at least a thousand men. At the time of the battle, the ground was covered with trees and long grass, so that the ravines were entirely hidden from view, till they were approached within a few feet. Indeed, at the present day, although the place is cleared from trees, and converted into pasture, they are perceptible only at a very short distance. By this knowledge of the local peculiarities of the battle-ground, the mystery, that the British conceived themselves to be contending with an invisible foe, is solved. Such was literally the fact. They were so paraded between the ravines, that their whole front and right flank were exposed to the incessant fire of the enemy, who discharged their muskets over the edge of the ravines, concealed during that operation by the grass and bushes, and protected by an invincible barrier below the surface of the earth. William Butler, a veteran soldier still living (1832,) who was in this action, and afterwards at the Plains of Abraham, said to me, 'We could only tell where the enemy were by the smoke of their muskets.' A few scattering Indians were behind trees, and some were killed in venturing out to take scalps, but much the larger portion fought wholly in the ravines.

It is not probable, that either General Braddock or any one of his officers suspected the actual situation of the enemy, during the whole bloody contest. It was a fault in the General, for which no apology can be offered, that he did not keep scouts and guards in advance and on the wings of his army, who would have made all proper discoveries before the whole had been brought into a snare. This neglect was the primary cause of his defeat, which might have been avoided. Had he charged with the bayonet, the ravines would have been cleared instantly; or had he brought his artillery to the points where the ravines terminated in the valley, and scoured them with grape-shot, the same consequence would have followed. But the total insubordination of his troops would have prevented both these movements, even if he had become acquainted with the ground in the early part of the action. The disasters of this day, and the fate of the commander, brave and resolute as he undoubtedly was, are to be ascribed to his contempt of Indian warfare, his overweening confidence in the prowess of veteran troops, his obsti-

nate self-complacency, his disregard of prudent counsel, and his negligence in leaving his army exposed to a surprise on their march. He freely consulted Colonel Washington, whose experience and judgment, notwithstanding his youth, claimed the highest respect for his opinions; but the General gave little heed to his advice. While on his march, George Croghan, the Indian interpreter, joined him with one hundred friendly Indians, who offered their services. These were accepted in so cold a manner, and the Indians themselves treated with so much neglect, that they deserted him one after another. Washington pressed upon him the importance of these men, and the necessity of conciliating and retaining them, but without effect.

A report has long been current in Pennsylvania, that Braddock was shot by one of his own men, founded on the declaration of a provincial soldier, who was in the action. There is another tradition, also, worthy of notice, which rests on the authority of Dr. Craik, the intimate friend of Washington from his boyhood to his death, and who was with him at the battle of the Monongahela. Fifteen years after that event, they travelled together on an expedition to the western country, with a party of woodsmen, for the purpose of exploring wild lands. While near the junction of the Great Kenhawa and Ohio rivers, a company of Indians came to them with an interpreter, at the head of whom was an aged and venerable chief. This personage made known to them by the interpreter, that, hearing Colonel Washington was in that region, he had come a long way to visit him, adding that, during the battle of the Monongahela, he had singled him out as a conspicuous object, fired his rifle at him many times, and directed his young warriors to do the same, but, to his utter astonishment, none of their balls took effect. He was then persuaded, that the youthful hero was under the special guardianship of the Great Spirit, and ceased to fire at him any longer. He was now come to pay homage to the man, who was the particular favorite of Heaven, and who could never die in battle. Mr. Custis, of Arlington, to whom these incidents were related by Dr. Craik, has dramatized them in a piece called *The Indian Prophecy.*

When the battle was over, and the remnant of Braddock's army had gained, in their flight, the opposite bank of the river, Colonel Washington was despatched by the General to meet Colonel Dunbar and order forward wagons for the wounded with all possible speed. But it was not till the 11th, after they had reached Gist's plantation with great difficulty and much suffering from hunger, that any arrived. The General was at first brought off in a tumbrel; he was next put on horseback, but, being unable to ride, was obliged to be carried by the soldiers. They all reached Dunbar's camp, to which the panic had already extended, and a day was passed there in the greatest confusion. The artillery was destroyed, and the public stores and heavy baggage were burnt, by whose order was never known. They moved forward on the 13th, and that night General Braddock died, and was buried in the road, for the purpose of concealing his body from the Indians. The spot is still pointed out, within a few yards of the present National Road, and about a mile west of the site of Fort Necessity at the Great Meadows. Captain Stewart, of the Virginia forces, had taken particular charge of him from the time he was wounded till his death. On the 17th the sick and wounded arrived at Fort Cumberland, and were soon after joined by Colonel Dunbar with the remaining fragments of the army. The French sent out a party as far as Dunbar's camp, and destroyed every thing that was left. Colonel Washington, being in very feeble health, proceeded in a few days to Mount Vernon.

CHANNELS OF RIVERS.

There is sometimes a good deal of mystery, in the effects of the tide in filling up, or deepening the channels through which the waters of rivers find their way to the ocean. As a general rule, however, it may be assumed that any obstruction in a part of the channel, which serves to diminish materially the volume of water which passes through it, at the flow and ebb of the tide, tends to diminish the depth of the channel, both above that obstruction and between it and the sea; and that a removal of the obstruction, again deepens the channel. As an instance of such an effect in the river Thames, we cite the following facts, which are stated by Mr. M'Culloch, in his lately published *Statistical Account.*

The removal of the old London bridge has caused a considerable change in the river above, and also, though in a less degree, below the bridge. Owing to the contracted arches through which the water had to make its way at the old bridge, there was a fall of from four feet nine inches to five feet at low water. This fall is now reduced to about two inches, so that the low water line above the bridge is nearly five feet lower at spring tides than formerly. In consequence, a greater increased body of tidal water now flows up and down the river; and, as it meets with no obstruction, it flows with a decidedly greater velocity. The effect of this is to scour and deepen the channel of the river, its influence in this respect being sensibly felt as far up as Putney bridge, seven and a half miles above London bridge. The shores above the latter, that were formerly foul and muddy, are now becoming clean shingle and gravel; and near low water the beach is quite hard and firm. The shoals are also decreasing below the bridge, and there can be little doubt that the change will, at no distant period, be felt from the Nore up to Teddington. Before the removal of the old bridge, a barge, starting from the Pool with the first of the flood, could not get further than Putney bridge without the assistance of oars; but, under similar circumstances, a barge now reaches Mortlake, four miles further up, before using oars, and, with a little help, she may reach Richmond, and, taking horses there, get to Teddington in a tide. The descent down the river has been equally facilitated; the mean velocities of the flood and ebb between London bridge and Westminster bridge are,—flood, three miles an hour; extreme, three and a half: ebb, three and one sixth; extreme, three and a half.

LIONS OF SOUTH AFRICA.

The southern part of Africa is remarkable for the number, variety, and ferocity of its wild animals. Among these, the lion stands preëminent for his strength, and for the perils to which unwary travellers in that region are frequently exposed, from his open attacks or his secret ambushes. The accounts of travellers in that country contain many interesting anecdotes of this monarch of the forest, of his habits and instincts, and of various hair-breadth escapes which they or others had made from the power of this mighty and dangerous but generous foe.

The cut we present below, represents an adventure of George Thompson, Esquire, eight years a resident at the Cape, who has published an account of his Travels and Adventures in Southern Africa. The following is his account of the adventure:

As we travelled along, I observed my Hottentot continually looking out for the *spoor* (track) of human feet, being exceedingly anxious to get to some kraal before night; but the only tracks he could discover were those of the wild animals above mentioned, and of their pursuer, the lion. The footprints of the latter were so frequent and so fresh, that it was evident these tyrants of the desert were numerous and near to us. Frederick also remarked to me, that wherever such numbers of the large game were to be seen, we might be certain lions were not far distant. The numerous skeletons of animals scattered over the plain, presented sufficient proofs of the justness of our apprehensions, and these were soon confirmed by ocular evidence. We were jogging pensively along, the Hottentot with two horses, about ten yards before me, I following with the other two: Frederick was nodding on his saddle, having slept little, I believe, the preceding night. In this posture, happening to cast my eyes on one side, I beheld with consternation two monstrous lions reclining under a mimosa bush within fifteen yards of our

path. They were reclining lazily on the ground, with half-opened jaws, showing their terrific fangs. I saw our danger, and was aware that no effort could save us if these savage beasts should be tempted to make a spring. I collected myself, therefore, and moved on in silence; while Frederick, without perceiving them, rode quietly past. I followed him exactly at the same pace, keeping my eyes fixed upon the glaring monsters, who remained perfectly still. When we had got about seventy or eighty yards from them, I rode gently up to Frederick, and, desiring him to look over his shoulder, showed him the lions. But such a face of terror I never beheld, as he exhibited, on perceiving the danger we had so narrowly escaped. He was astonished, too, that he had not previously observed them, being, like most of his countrymen, very quick-sighted. He said, however, that I had acted very properly in not speaking nor evincing the least alarm while passing the lions; for, if I had, they would probably not have let us pass so quietly. Most likely, however, we owed our safety to their hunger being satiated, for they appeared to have been just devouring some animal they had killed,—a quagha, as it seemed to me, from the hurried glance I had in passing.

In the Appendix to the work already mentioned, we find some very interesting notices of the African lion, a few of which we extract for the amusement of our readers:

Two varieties of the lion are found in South Africa, namely, the yellow and the brown; or (as the Dutch colonists often term the latter) the blue or black lion. The dark colored species is commonly esteemed the strongest and fiercest. I doubt, however, whether there is any real specific distinction, although some lion hunters enumerate no less than four varieties; for the mere difference in size and color may be either altogether accidental, or the consequence of a variation of food and climate in different districts.

The lions in the Bushmen's country, beyond the limits of the colony, are accounted peculiarly fierce and dangerous. This is doubtless owing to their unacquaintance with civilized man,—the possessor of the formidable *roer* or rifle,—and still more perhaps to their instinctive awe of mankind having been extinguished by successful rencounters with the poor natives. It is said, that, when the lion has once tasted human flesh, he thenceforth entirely loses his natural awe of human superiority; and it is asserted, that, when he has once

succeeded in snatching some unhappy wretch from a Bushman kraal, he never fails to return regularly every night in search of another meal; and often harasses them so dreadfully as to force the horde to desert their station. From apprehensions of such nocturnal attacks, some of these wretched hordes are said to be in the habit of placing their aged and infirm nearest the entrance of the cave or covert where they usually sleep, in order that the least valuable may first fall a prey, and serve as a ransom for the rest.

The prodigious strength of this animal does not appear to have been overrated. It is certain that he can drag the heaviest ox with ease a considerable way; and a horse, heifer, hartebeest, or lesser prey, he finds no difficulty in throwing upon his shoulder, and carrying off to any distance he may find convenient. I have myself witnessed an instance of a very young lion conveying a horse about a mile from the spot where he had killed it; and a more extraordinary case, which occurred in the Sneeuwberg, has been mentioned to me on good authority, where a lion, having carried off a heifer of two years old, was followed on the *spoor* or track for fully five hours, by a party on horseback, and throughout the whole distance, the carcase of the heifer was only once or twice discovered to have touched the ground. Many examples not less remarkable might easily be added, which would fully prove the lion to be by far the strongest and most active animal, in proportion to his size, that is known to exist.

Mr. Barrow has represented the lion of South Africa as a cowardly and treacherous animal, always lurking in covert for his prey, and scampering off in shame and fear if he misses his first spring. I apprehend that that intelligent traveller has in this, as in some other instances, been led to draw an erroneous conclusion by reasoning too hastily from limited experience or inaccurate information. The lion, it is true, not less now than in ancient times, usually 'lurketh privily in secret places,' and 'lieth in wait' to spring suddenly and without warning upon his prey. This is the general characteristic of every variety of the feline tribe to which he belongs; and for this mode of hunting alone has nature fitted them. The wolf and hound are furnished with a keener scent and untiring swiftness of foot to run down their game. The lion and leopard are only capable of extraordinary speed for a short space; and if they fail to seize their prey at the first spring, or after a few ardent and amazing bounds, they naturally abandon the pursuit, from the consciousness of being unequal to continue it successfully. The lion springs from nine to twelve yards at a single leap, and for a brief space can repeat these bounds with such activity and speed, as to outstrip the swiftest horse in a short chase; but he cannot hold out at this rate in a long pursuit, and seldom attempts it. The monarch of the forest is, in fact, merely a gigantic cat, and he must live by using the arts of a cat. He would have but a poor chance with the antelopes, were he always magnanimously to begin a roaring whenever a herd approached his lair. He knows his business better, and generally couches among the rank grass or reeds that grow around the pools and fountains, or in the narrow ravines through which the larger game descend to drink at the rivers; and in such places one may most commonly find the horns and bones of the animals which have been thus surprised and devoured by him.

Even in such places, it is said, he will generally retreat before the awe-inspiring presence of man, but not precipitately, nor without first calmly surveying his demeanor and apparently measuring his prowess. He appears to have the impression, that man is not his natural prey; and though he does not always give place to him, he will yet in almost every case abstain from attacking him, if he observes in his deportment neither terror nor hostility. But this instinctive deference is not to be counted upon under other circumstances, nor even under such as now described, with entire security. If he is hungry or angry, or if he be watching the game he has killed, or is otherwise perturbed by rage or jealousy, it is no jest to encounter him. If he assumes a hostile aspect, the traveller must elevate his gun, and take aim at the animal's forehead, before he comes close up and couches to take his spring; for in that position, though he may possibly give way to firmness and self-possession, he will tolerate no offensive movement, and will anticipate, by an instant and overwhelming bound, any attempt then to take aim at him. These observations are advanced, not in the confidence of my own slight experience, but upon the uniform testimony of many of the back country Boors and Hottentots with whom I have often conversed on such subjects, to dissipate the ennui of a dreary journey, or an evening *outspann* in the interior.

My friend, Diederik Muller, one of the most intrepid and successful lion-hunters in South Africa, mentioned to me the following incident, in illustration of the foregoing remarks:—He had been out alone, hunting in the wilds, when he came suddenly upon a lion, which, instead of giving way, seemed disposed, from the angry attitude he assumed, to dispute with him the dominion of the desert. Diederik instantly alighted, and, confident of his unerring aim, levelled his mighty *roer* at the forehead of the lion, who was couched in the act to spring, within fifteen paces of him; but, at the moment the hunter fired, his horse, whose bridle was round his arm, started back, and caused him to miss. The lion bounded forward, but stopped within a few paces, confronting Diederik, who stood defenceless, his gun discharged, and his horse running off. The man and the beast stood looking each other in the face, for a short space. At length the lion moved backward, as if to go away. Diederik began to load his gun: the lion looked over his shoulder, growled, and returned. Diederik stood still. The lion again moved cautiously off; and the boor proceeded to load, and ram down his bullet. The lion again looked back, and growled angrily; and this occurred repeatedly, until the animal had got off to some distance, when he took fairly to his heels, and bounded away.

This was not the only nor the most dangerous adventure of Diederik Muller with the monarch of the wilderness. On another occasion, a lion came so suddenly upon him, that, before he could take aim, the animal made his formidable spring, and alighted so near the hunter, that he had just space to thrust the muzzle of his gun into his open jaws, and shoot him through the head.

Diederik and his brother Christian generally hunt in company; and have (between them) killed upwards of thirty lions. They have not achieved this, however, without many hair-breadth escapes, and have more than once saved each other's lives. On one of these occasions, a lion sprang suddenly upon Diederik, from behind a stone, bore man and horse to the ground, and was proceeding to finish his career, when Christian galloped up and shot the savage through the heart. In this encounter, Diederik was so roughly handled, that he lost his hearing in one ear, the lion having dug his talons deeply into it.

The hero of the following story is a Hottentot of the Agter Sneeuwberg. I have forgotten his name, but he was alive two years ago, when the story was related to me at Cradock, in that neighborhood. The man was out hunting, and perceiving an antelope feeding among some bushes, he approached in a creeping posture, and had rested his gun over an ant-hill to take a steady aim, when, observing that the creature's attention was suddenly and peculiarly excited by some object near him, he looked up and perceived with horror that an enormous lion was at that instant creeping forward, and ready to spring upon himself. Before he could change his posture, and direct his aim upon this antagonist, the savage beast bounded forward, seized him with his talons, and crushed his left hand, as he endeavored to guard him off with it, between his monstrous jaws. In this extremity, the Hottentot had the presence of mind to turn the muzzle of the gun, which he still held in his right hand, into the lion's mouth, and then drawing the trigger, shot him dead through the brain. He lost his hand, but happily escaped without farther injury.

Amongst other peculiarities ascribed to the lion, is his supposed propensity to prey on black men in preference to white, when he has the choice; or, as the Cape boors explain it, his discretion in refraining from the flesh of '*Christen-mensch*,' when '*Hottentot volk*' are to be come at. The fact of this preference, so strongly alleged, need not be disputed; but I am inclined to account for it on somewhat different grounds from those usually assigned. The lion, like most other beasts of prey, is directed to his game by the scent as well as by the eye. Now the *odor* of the woolly-haired races of men, and especially of the Hottentot, in his wild or semi-barbarous state, 'unkempt, unwashed, unshaven,' is peculiarly strong, as every one who has sat behind a Hottentot wagon-driver, with the breeze in his nostrils, knows right well. The lion, prowling round after nightfall in search of a supper, is naturally allured by the pungent effluvia, steaming for miles down the wind, equally attractive to him as the scent of a savory beefsteak to a hungry traveller. He cautiously approaches, finds the devoted wretch fast asleep under a bush, and feels it impossible to resist keen appetite and convenient opportunity. He seizes on the strong-scented Hottentot, while the less tempting boor is left unnoticed, perhaps reclined at a little distance, with his feet to the fire, or within or under his wagon. The following anecdotes, illustrative of these remarks, were told me by old Jacob Marè (my fellow-traveller across the Great Karroo, in 1822), who knew the parties personally.

A farmer, of the name of Van der Merwe had outspanned his wagon in the wilderness, and laid himself down to repose by the side of it. His two Hottentot servants, a man and his wife, had disposed themselves on their ready couch of sand, at the other side. At midnight, when all were fast asleep, a lion came quietly up and carried off the poor woman in his mouth. Her master and her husband, startled by her fearful shrieks, sprang to their guns, but without avail. Favored by the darkness, the monster had conveyed, in a few minutes, his unfortunate victim far into the thickets, beyond the possibility of rescue.

A Hottentot at Jackal's Fountain, on the skirts of the Great Karroo, had a narrow though ludicrous escape on a similar occasion. He was sleeping a few yards from his master, in the usual mode of his nation, wrapped up in his sheep-skin *carosse*, with his face to the ground. A lion came softly up, and seizing him by the thick folds of his greasy mantle, began to trot away with him, counting securely, no doubt, on a savory and satisfactory meal. But the Hottentot, on awaking, being quite unhurt, though sufficiently astonished, contrived somehow to wriggle himself out of his wrapper, and scrambled off, while the disappointed lion walked simply away with the empty integument.

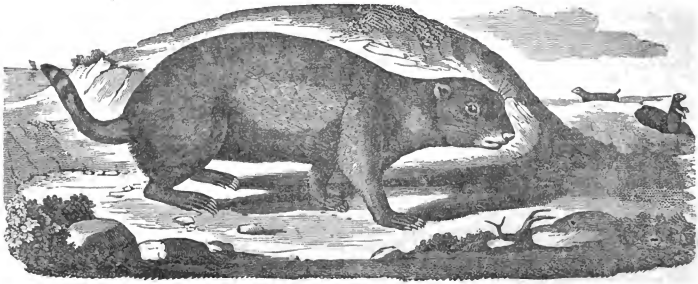
A Sister. He who has never known a sister's kind ministrations, nor felt his heart warming beneath her endearing smile and love-beaming eye, has been unfortunate indeed. It is not to be wondered if the fountains of pure feeling flow in his bosom but sluggishly, or if the gentler emotions of his nature be lost in the sterner attributes of manhood.

'That man has grown up among kind and affectionate sisters,' I once heard a lady of much observation and experience remark.

'And why do you think so?' said I.

'Because of the rich development of all the tenderer and more refined feelings of the heart, which are so apparent in every word.'

A sister's influence is felt, even in manhood's later years; and the heart of him who has grown cold in its chilling contact with the world, will warm and thrill with pure enjoyment, as some incident awakes within him the soft tones and glad melodies of his sister's voice. And he will turn from purposes which a warped and false philosophy has reasoned into expediency, and even weep for the gentler influences which moved him in his earlier years.



Louisiana Marmot.

MARMOT.

We have given an engraving and some account of the marmot, on page 163, of the first volume. There are different species, and the accompanying cut gives an accurate representation of the Louisiana Marmot, or Prairie dog. It is known also by the various names of *Petit chien*; *Wistonwish*; *Arctomys Ludovicianus*; and *Arctomys Missouriensis*. Before giving an account of it, it may be well to give some account of the genus itself.

The head of all animals of this genus, which is thick and flattened, has a blunt and somewhat compressed snout, with eyes of a moderate size, and short ears. The trunk of the body is thick, the limbs short, and the feet robust. The fore feet have four digits, not united by membrane, and a rudimental thumb. The posterior extremities have five digits, which are also free; all the toes are furnished with strong, hooked, compressed nails. The tail is short, or of moderate length, and covered with hair.

There are twenty-two teeth, twelve upper ones and ten lower. The upper teeth consist of two incisive and ten molar; and the lower of two incisive and eight molar.

In the upper jaw the incisive is rounded and smooth in front, and rises from the anterior and inferior part of the maxillary bone above the first molar. The first molar is a simple tubercle with one root; the three following, which are of the same size, are divided transversely by two depressions, which produce three prominences; the first of these depressions traverses the tooth entirely, but the second is obstructed by a spine or internal spur, which unites the two posterior prominences. These teeth have three roots, two external and one internal. The last, or fifth, resembles the others, except in its posterior prominence, which is extended posteriorly in a sort of spur, which corresponds to the root analogous to the second external root of the preceding molars.

In the lower jaw the incisive is similar to that of the upper jaw, and rises below the last molar. The four molars are of equal size, and entirely similar in form. They present a groove on their outside, on the inside a depression which comprises the whole width of the tooth, and at their antero-inferior edge a narrow and very salient tubercle, which diminishes in size from the first to the last. The first of these teeth has, besides, at its neck and on its anterior face, a hollow bordered by a small spine.

When these teeth are worn to a certain degree, all their projections disappear, and their crowns become entirely smooth; but both subsist during the whole life of the animal.

But to come nearer to the animal of which we have above given an engraving. The vast solitudes of our remote territories, where man has not yet established his abode, are generally overshadowed by dense forests, which, during an unknown lapse of ages, have there successively flourished and decayed; imparting to the landscape a character of grand though sombre uniformity, broken only by the courses of rivers, the ruggedness and sterility of some portions of soil, or where the furious hurricane has swept along, prostrating the giant sons of earth with a destructiveness proportioned to their resistance. The traveller who, impelled by curiosity, advances beyond the 'father of western rivers,' with delighted admiration finds himself gradually emerging from these apparently interminable shades, and entering upon a new world. Before him, spreading as far as vision can extend, he beholds fields of richest verdure, interspersed with clumps of slight and graceful trees, as if with an exclusive view to ornament, and discovers the far distant windings of the river as it steals through the plain, by the cotton-wood and willows fringing its banks. After traversing such scenes, enlivened by numerous herds of browsing animals, that here find a luxurious subsistence, and arriving at the higher and more barren parts of the tract, he is startled by a sudden shrill whistle, which he may fear to be the signal of some ambushed savage; but on advancing into a clearer space, the innocent cause of alarm is found to be a little quadruped whose dwelling is indicated by a small mound of earth, near which the animal sits erect in an attitude of profound attention. Similar mounds are now seen to be scattered at intervals over many acres of ground, and the whole forms one village or community, containing thousands of inhabitants,

whose various actions and gambols awaken the most pleasing associations.

In some instances these villages are limited, or at most occupy but a few acres; but still nearer to the Rocky Mountains, where they are entirely undisturbed, they are found to extend even for miles. We may form some idea of the number of these animals when we learn that each burrow contains several occupants, and that frequently as many as seven or eight are seen reposing upon one mound. Here, in pleasant weather, they delight to sport, and enjoy the warmth of the sun. On the approach of danger, while it is yet too distant to be feared, they bark defiance, and flourish their little tails with great intrepidity. But as soon as it appears to be drawing rather nigh, the whole troop precipitately retire into their subterranean cells, where they securely remain until the peril be past. One by one they then peep forth, and vigilantly scrutinize every sound and object before they resume their wonted actions. While thus near to their retreats they almost uniformly escape the hunter, and if killed, they mostly fall into their burrows, which are too deep to allow their bodies to be obtained.

The villages found nearest to the mountains have an appearance of greater antiquity than those observed elsewhere. Some of the mounds in such situations are several yards in diameter, though of slight elevation. These, except about the entrance, are overgrown by a scanty herbage, which is characteristic of the vicinity of these villages. Say has observed on this subject, that it is not easy to assign a reason for the preference shown by the prairie marmot, which lives on grassy and herbaceous plants, in selecting the most barren places for its dwelling, 'unless it be that he may enjoy an unobstructed view of the surrounding country, in order to be seasonably warned of the approach of wolves or other enemies.' This reason may be sufficiently valid of itself, but we would suggest another in the difference of soil, rendering such barren places fitter for the burrows. It is by no means necessary to suppose that this marmot obtains its food exclusively near its own dwelling. We know that this is not the case with the Maryland marmot, which so closely resembles this species in every respect, and goes to considerable distances in search of food, even in the immediate vicinity of man.*

The mound thrown up by the prairie marmot consists of the earth excavated in forming the burrow, and rarely rises higher than eighteen inches, though measuring two or three feet in width at the base. The form of the mound is that of a truncated cone, and the entrance, which is a comparatively large hole, is at the summit or in the side; the whole surface, but especially the top of the mound, being well beaten down like a much used foot-path. From the entrance the hole descends perpendicularly for a foot or two, and then is continued obliquely or somewhat spirally downwards, to a depth which has not been determined.

This marmot, like his kindred species, passes the winter in a state of torpidity, and to secure himself comfortably against the effects of the cold, he closes accurately the mouth of the burrow, and constructs at the bottom of it a neat globular cell, of fine dry grass, having an aperture at top sufficiently large to admit a finger, and so compactly put together that it might almost be rolled along the ground uninjured.

This active and industrious community of quadrupeds (like every other society) is infested by various depredators who subsist by plunder, or are too ignorant or indolent to labor for themselves. Hence a strange association is frequently observed in their villages, for burrowing-owls (*Stryx Hypugea* of Bonaparte), rattlesnakes, lizards, and land tortoises, are seen to take refuge in their habitations. The burrowing-owl, however, appears to appropriate an excavation to his own use, as is evinced by its decayed and dilapidated condition, while those frequented by the marmot are always neat and in good repair. The young of the marmot most probably become the prey of this singular bird. The rattlesnakes also exact their tribute with great certainty, and without exciting any alarm, as they can penetrate the inmost recesses of the burrow, and a slight wound inflicted by their fangs is followed by the immediate extinction of life. Pike says, 'it is extremely dangerous to pass through their towns, as they abound with rattlesnakes, both of the yellow and black species; and, strange as it may appear, I have seen the *wiston-wish* (prairie marmot), the horn-frog (orbicular lizard), and a land-tortoise, all take refuge in the same hole. I do not pretend to assert that it was their common place of resort, but I have witnessed the above facts in more than one instance.'

The prairie marmot is about sixteen inches long from the tip of the nose to the root of the tail, which is two inches and three quarters in length. The head is broad and depressed above with large eyes, having dark brown irides. The ears are short and truncated; the whiskers black, and of moderate length; there are a few bristles above the eye, and a few also on the side of the cheek; the nose is rather short and compressed. The general color is a light dingy reddish brown, intermingled with some gray, and a few black hairs, which are dark or dusky at base, then bluish white, then light reddish, and finally gray at tip. The under parts of the body are of a dirty white color; the hair on the anterior legs, that on the throat and on the neck, is not dusky at base.

All the feet are five-toed, clothed with very short hair, and armed with rather long black nails; the outer one on the fore feet reaches nearly to the base of the next, and the middle one is nearly half an inch long. The thumb has a conical nail, three tenths of an inch in length; the tail is banded with brown near the tip, and the hair, except that next the body, is not plumbeous at base.

Such is the account for which we are indebted to Godman, who says, 'the description of this species is from Say, who has given the best account of the habits of this animal hitherto published.' Godman's accuracy and scrupulousness in regard to statements entitle him to the highest

* Pike says of the prairie marmot, that 'they never extend their excursions more than half a mile from their burrows.'

confidence, and he would not have introduced into his work a description from Say, unless he had been well assured of that accuracy of observation for which Say has gained such a reputation. We would direct those of our readers, who wish to obtain views and accounts of animals on which they may rely, to the work by Godman, who deserves the high praise and patronage of his countrymen and of all friends to Natural History, for the accurate information he has given on the subject.

CITY OF TIMBUCTOO, IN AFRICA.

On the 19th of April, 1828, according to the Narrative of Discovery and Adventure in Africa, M. Caillié arrived at Cabra, the port of Timbuctoo, consisting of a long row of houses composed of earth and straw, extending about half a mile on the bank of the river. The inhabitants, estimated at about 1200, are entirely employed in lading and unlading the numerous barks which touch at the quay.

In the evening of the 20th April, Caillié, with some companions, rode from Cabra, and entered Timbuctoo, which he calls Temboctou. He describes himself as struck with an extraordinary and joyful emotion at the view of this mysterious city, so long the object of curiosity to the civilized nations of Europe. The scene, however, presented little of that grandeur and wealth with which the name has been associated. It comprised only a heap of ill-built earthen houses, all around which were spread immense plains of moving sand of a yellowish-white color, and parched in the extreme. 'The horizon is of a pale red,—all is gloomy in nature,—the deepest silence reigns,—not the song of a single bird is heard;' yet there was something imposing in the view of a great city, thus raised amid sands and deserts by the mere power of commerce.

Although M. Caillié resided above a fortnight in Timbuctoo, his information respecting it is very defective. It appears, except in point of situation, to be nearly such a city as Jenne, consisting of large houses, chiefly tenanted by Moorish merchants, intermingled with conical straw huts occupied by negroes. The author has given a *croquis*, or sketch of part of the city, which, though very deficient in perspective, is yet so curious as to merit a place in this publication. There are seven mosques, of which the principal one is very extensive, having three galleries, each two hundred feet long, with a tower upwards of fifty feet high. One part, apparently more ancient than the rest, and almost falling into ruin, was thought to exhibit a style of architecture decidedly superior to the more modern buildings.

Timbuctoo is entirely supported by commerce. It is the depot of the salt conveyed from the mines of Taudeny, and also of the European goods brought by the caravans from Morocco, as well as by those from Tunis and Tripoli, which come by way of Ghadamis. These goods are embarked for Jenne, to be exchanged for the gold, slaves, and provisions with which that city exclusively supplies Timbuctoo, the neighborhood being almost a complete desert. The population is estimated at 10,000 or 12,000, which, not being in proportion to a town three miles in circumference, is probably underrated. The people are chiefly negroes of the Kissour tribe, but bigoted Mohammedans. There appeared less bustle and activity than at Jenne,—a circumstance which does not seem very easily accounted for. Osman, the king, was an agreeable-looking negro of fifty-five, to whom the traveller was introduced, without being aware that he was only viceroy, or at least tributary, to the sultan of Masina. The country is much harassed by the wandering tribe of Tauricks, who, like the Bedouins in Arabia, levy a regular tax on the caravans.

L'HOPITAL AUFFREDY, AT ROCHELLE.

In the beginning of the thirteenth century, when Rochelle was free and flourishing, there lived in that city a man extremely rich, whose wealth, aided by a kind and liberal disposition, seemed to make industry and happiness spring up around him. Auffredy was the name of this worthy citizen, whose history furnishes us with a striking example of the ingratitude of mankind, and the reverses of fortune. Ten of Auffredy's ships had been equipped for the Mediterranean, the trade of which was now almost entirely in the hands of the Rochellans. A whole year had elapsed, and the vessels were not returned into port, nor as yet was there any intelligence of them. The report of their loss now spread abroad in the city, and the credit of our merchant with the townsfolk began to be shaken. A large part of his fortune had been embarked in this speculation to the Levant, and when certain other anterior engagements became pressing, he found himself at the moment unable to meet them. Auffredy might still have worked upon credit, but he was a man of strict honor, and compromise was out of the question. He paid all, and was ruined. But at the early period we date from, the unfortunate then had few friends; those

of Auffredy insensibly left him, and at length he stood alone in the world. A man of less mind would infallibly have sunk under the trial; but our good merchant was still a man in spite of his lot, and became greater, even by misfortune. Auffredy saw a class of beings surrounding him who gained a livelihood by the sweat of their brow; he mingled with these, made one of their number, receiving the pay of a laborer from the hands of those men who not long ago had eaten at his table. This stern resolution on the part of our hero became the talk of the town; he was the object of admiration to a few, of insult and irony among others, and of surprise and incredulity to the many. The ex-merchant alone felt neither surprise nor humiliation; and daily he might be seen exercising on the quay the painful labors of a workman, for which he seemed to have been born.

One evening, fatigued with rolling for many hours the heavy casks of wine, a part of his toilsome duty, he sat himself down to rest, contemplating the return of the tide, so interesting in our ports of the ocean. The general movement of the people, 'the busy hum of men,' the sight of ships laden with the produce of all countries, took him back to other times, and, in spite of himself, plunged him into sad reflections. On a sudden the signal of the tower from St. John announced the arrival of vessels by a distinguished flag, well known to his ancient house. At first he thought himself the sport of some malign illusion; yet the colors were his own—in this, at least, there was no mockery. Presently a crowd of workmen, mechanics, and sailors, now his only friends, ran to him with the joyful news that his carracks, so long deplored as lost, had returned, laden with great riches.

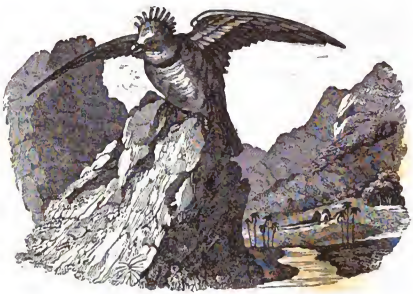
Soon after, the factor made his appearance, informing him that, having disposed of the cargo to great advantage, and finding the times inviting to commerce, he had embarked in new speculations, which in like manner were crowned with success, so that the capital entrusted to him had been multiplied tenfold. This had caused the delay of the ships. Auffredy by this event became richer than ever. By his newly acquired wealth, and by the great popularity that a temporary poverty had gained for him, he might have easily revenged himself upon his ungrateful friends; but his mind, firm under misfortune, was generous in prosperity. He forgot the injuries of the wealthy to remember the hardships of his poorer brethren with whom he had associated. A workman himself, he was the friend of workmen, and devoted his unlooked for riches to the founding of an hospital for their especial benefit in old age and poverty, which, to this day, bears his name.

METEORIC STONES.

The great Swedish chemist, Berzelius, has published a paper on the nature and origin of meteoric stones, of which an abstract is given in the last number of the Philosophical Magazine. A year seldom elapses without the descent of a meteoric stone being observed somewhere; and when we allow the number which escape notice by falling in the night, or on fields, mountains, or forests, where no one is present, and in the sea, which covers three fourths of the globe, we may safely assert that the number observed is not one fiftieth part of the number which actually fall. They are of all sizes, from an ounce to 300 pounds weight, to say nothing of a very few which are said to be far larger. There are three opinions as to the origin of these bodies—that they have been thrown out by terrestrial volcanoes; that they have been formed in the atmosphere by the sudden union of their elements previously existing in the state of gases; and that they have been projected from volcanoes in the moon, or are planets revolving in the planetary spaces. Berzelius thinks the two former untenable, and adopts the latter. The moon is believed to have no atmosphere, and no water; and it is remarkable that the state in which the meteoric stones are found, is consistent with this supposition. The absence of an atmosphere, that is, a remarkable medium, also facilitates the ascent of bodies projected from a volcano; and as the mountains in the moon are much higher in proportion than those in the earth, it is probable that the igneous agency is much more powerful. There is nothing incredible, therefore, in the assumption, that stones projected from lunar volcanoes may pass beyond that point where the lunar and terrestrial attractions balance each other; and they would then, of course, fall to the earth.

The moon's distance from the earth being 240,000 miles, and the relative masses of the two bodies as 1 to 80, the neutral point may be found by calculation; and, if our rough estimate be correct, is at the distance of 27,000 miles from the moon. It is well known, that meteorites have a remarkable resemblance to each other in their external character and chemical composition. Berzelius, from the examination of a large number, finds they are of two species, and concludes that the greater proportion come from some one mountain in the central culminating point of that side of the moon which is towards the earth; and a small proportion from mountains in other parts of the satellite. He admits, however, that the latter may possibly be small fragments of the large planet supposed by astronomers to have existed between Mars and Jupiter, and of which we have remnants in the four asteroides,—Ceres, Juno, Vesta, and Pallas. When the original planet burst asunder, an immense number of small fragments would be thrown off, and some of these being projected in such directions, that their course around the sun would be diminished, they might come in contact with the earth. Meteorites may therefore be considered as *mineralogical specimens from the moon.* What strange discoveries time makes! Who would have dreamed, fifty years ago, that we should have specimens of rocks sent us from the moon, and be able to analyze them in our laboratories, and tell of what elements they are composed! Supposing the lunar origin of the specimens to be true, (and it will certainly be either proved or disproved in a few years) it is interesting to know that the same elementary substances, metals, &c., which exist in the crust of

the earth, are found in the satellite, combined also in the same way, and showing similar forms. The telescope tells us that the mountains in the moon are extremely numerous, that some of them display stratification, and that many of them have distinct craters, and are volcanic. We thus advance step by step to a more intimate knowledge of bodies, of which, on a first view, nature would seem to have destined us to have only the most vague and limited conceptions. The next great improvement in the telescope will unquestionably reveal new analogies, and other grand and still more interesting truths to us. In some material points, the analogy between the earth and moon fails; and in this particularly, that the want of an atmosphere and of water in the latter would seem to indicate that neither animals nor plants exist on its surface. It has hence been supposed, that the moon is a globe not inhabited, but in its progress toward a habitable state, such as the condition of the earth would be when the primary stratified rocks were being formed.



HARPYIA DESTRUCTOR—THE DESTROYING EAGLE OF SOUTH AMERICA.

The size of this bird rather exceeds that of a turkey. The plumage above is covered with black. The head is covered with feathers, and adorned with a crest of longer feathers, several being placed on each side. The middle ones are two inches long, those at the sides rather shorter, and the whole are movable at the will of the bird. The hind part of the neck is fulvous; body beneath white; tail fasciated with brown and black; beak and thighs with black and white. The legs are covered with white feathers, and crested with black. Linnæus describes the legs in his *species harpyia* as being naked. This bird is found only in South America, and is said to possess such amazing strength, that it is able to cleave a man's skull at one strike of its bill.

[From Fraser's Magazine.]

FATAL PRESENTIMENTS.

'"Tis the sunset of life teaches mystical lore,
And coming events cast their shadows before.'

Every thing relating to futurity is powerfully interesting. The solemn obscurity of the dark and mysterious future inevitably induces the mind to contemplate with awful anxiety that state of good or evil to which we all must come: and as death is common to every one, so are its presages eagerly received, and by many implicitly credited.

In Scotland, the *Bodach Glas* announces the termination of human life to the appalled and trembling persons: in Wales, the *Canwyll y Cyrph*, or Corpse Candle, indicates the same doom, and blanches the bravest brow: in Ireland the Death Fetch has the same ominous power; while here in England, the harsh ticking death-watch points with equal certainty to the final struggle, and whitens the cheek of the aged nurse by its well known warning.

It would be no difficult matter to account for the *modus operandi* of these 'Fatal Presentiments.' The human mind is a strange machine, and when excited by intense anxiety, and wound up to the highest pitch by despair and fear, it is no hard matter to conjure up those 'signs and tokens,' which are now considered as sure and fatal prognostications of the worst of human calamities. The buzzing of a fly in the chamber of the dying is an omen of sufficient magnitude to startle the strongest; and Hope

'Which draws towards itself
The flame with which it kindles,'

is frequently put to flight by a sound which, at any other time, would not be noticed. But it has been contended, and by persons of no mean understanding, that *fatal presentiments* are conveyed to the mind by means, if not supernatural, at all events mysterious and wonderful; and numerous examples, as we shall presently see, have been adduced in proof of the unerring certainty of the warning, as well as of its mysterious occurrences. Lord Rochester—a strange but not despicable au-

thority—indulged an impression, that the soul, either by a natural sagacity, or some secret notice communicated to it, had a sort of divination by which these presages were engendered; while many of the ancient philosophers believed that the mind was endowed, to a certain extent, with power of prescience totally distinct from, and independent of that conjectural sagacity in regard to the future, which is derived from enlarged and comprehensive experience of the past. This was the opinion entertained by Cicero; and, in short, it is a tenet which has been common to men in all ages, embodied in their popular poetry and traditions, and disputed only in ages of sceptical refinement; and, if we admit that every action and every event occur in conformity to general laws—in other words, that there is no such thing as contingency, either in human actions or the course of events, but that each must be determined by an adequate notice or cause—there seems nothing repugnant to reason, or inconsistent with the known operation of the mind, in admitting the possible existence of such a faculty, though, for wise purposes, its operation is confined within narrow limits, and we are kept in salutary ignorance of futurity. If there be no contingency, every thing is necessary, and *may*, for any thing we know to the contrary, be sometimes, and to a certain extent, foreseen even by man in his present imperfect state.

This is especially the case as regards approaching evil, while prosperity, even when it comes suddenly, is seldom or never preceded by any presage of its approach. How are we to account for this? We may adduce two solutions of the marvel. First, it is no doubt a wise provision to warn men of evil; as it is of more importance to him to receive a premonition of approaching mischief, than a coming good. Secondly, all our powers and faculties are primarily devoted to our preservation, and are most violently called into action, when this is endangered. Hence even the very instincts of our nature frequently impart a salutary presentiment indispensable to our safety. It is upon this principle, chiefly, that we would account for the presentiment of evil being so much more prevalent than that of good, which requires no harbinger to prepare us for its approach. And for the very same reason, that we have sometimes a general and an indefinite presentiment of coming evil which is frequently complex in its character, we may have a *distinct* presage of the approach of death, the most awful event which we are called upon to meet in this present state of our mortal being.

It is a well-authenticated fact, that many men distinguished for great personal bravery, and the most intrepid contempt of danger in its most appalling forms, have, on the eve of battle, been overwhelmed with a *fatal presentiment* that they should not survive the combat; and that, in no instance, so far as we have been able to ascertain, has this presentiment proved false. The self-doomed victim has in every case fallen as he had predicted. The following examples, for the authenticity of which we will vouch, are strikingly corroborative of the fact in question.

A young officer, of great promise, belonging to the 92d regiment, was observed, on the day before the battle of Corunna, to be particularly low-spirited; which was the more observable, as he was generally gay, cheerful, and full of spirits. His brother officers inquired the reason, rallied him—as brother officers are wont to do—but received no answer. On getting an opportunity, however, of conversing alone with one of them, to whom he was much attached, as he was a namesake, and a fellow countryman—'M.,' said he, 'I shall, to a certainty, never survive to-morrow. I know I shall not, and you will see it.' His friend tried to laugh him out of this notion, and said it was childish, and unworthy of a man who had so often and so heroically faced the enemy, to harbor such dismal forebodings. The next day, after the heat of the action, the two young men met by accident; and he who the day before had derided the gloomy imagination of his friend, accosted him with,—'What, M.! I thought you were to have been killed: did I not say you should not?' His friend replied, that nothing could convince him that he should ever see the sun of that day set; and, strange as it may seem, the words had scarcely escaped from his lips, when he was struck in the breast by a cannon shot, which instantly deprived him of existence.

There are few regiments that have not some anecdotes of this sort to record. We shall mention one or two more, which have been communicated to us by officers of great respectability, as having passed under their own personal observation. Lieutenant M'D., of the 43d, was so strongly possessed with this presentiment on the eve of one of the battles in the Peninsula, that he sent for Captain S., of the 88th, who was a countryman of his, and requested him to take charge of several little things, and to transmit them safely to his relations, particularly to his mother. Captain S., in surprise, asked him the reason why he, who was in perfect health, should think of making such arrangements. M'D. replied, 'I know I am in perfect health; and I know, also, that I shall never return from the field to-morrow.' Knowing M'D. to be a particularly brave man, for he had already repeatedly distinguished himself, and never having heard him express himself in such terms before, Captain S. was lost in astonishment, and his first impression was, that his poor friend was suffering from the delirium of fever. He therefore proceeded to remonstrate with him, and to endeavor, if possible, to rally him out of that desponding presentiment, which appeared to affect him so seriously. M'D. heard him calmly, and, without taking any notice of what he said, repeated his request in so cool and collected a manner, as to leave no doubt that he was in the full and perfect possession of all his faculties. Captain S. therefore readily promised to comply with his wishes, should he himself survive: they then separated, and each went to his post.

On the following day, after the tumult and *melee* of the battle had subsided, the British being, as usual, victorious, a number of the officers met, to congratulate one another on their safety. When

Captain S. joined the party, he immediately inquired after his friend M'D., but none of the survivors had seen him, or knew any thing of his fate. The conversation of the preceding day now rushed upon his mind, and, without saying a word, he instantly returned to the field to search for him among the wounded, the dead, and the dying. Nor did he search in vain. He found him already stripped of part of his regimentals; but he knew him at once, his head and face being unharmed. Captain S. became deeply affected, and could not help shedding tears over the lifeless body of the brave and gallant youth, foredoomed to so premature a fate.

The same thing happened in the case of Sergeant Macdonald, from Lochabar, as brave a fellow as ever drew sword, or carried a halbert, and who had been in ten or twelve general engagements, in each of which he had distinguished himself. On one occasion, however, he was so overwhelmed with this presentiment of death, that, on the day of battle, when his regiment was ordered to advance, his limbs refused their office, and his comrades had literally to support and assist the man, to whom they had been accustomed to look up to as an example and model of a brave soldier. The battle had not lasted half an hour, before he was shot through the head.

A private of the name of Mackay, a man of the most reckless and dare-devil character, used to be the delight of the bivouacs, of the 43d, during the Peninsular war. He had a great deal of that coarse but effective wit and drollery, which never fail to excite laughter. He abounded in anecdotes and stories, which he told with a remarkable degree of *naiveté* and humor; and often did he beguile the watches of the night, as poor Alan did with Mungo Park, by singing the songs of his dear native land. The instant Mackay appeared, hunger, thirst, and fatigue were forgotten: the soldiers clustered round him, and, seating themselves by the watch-fire, thought only of listening to the joke, the tale, or the song. Even some of the officers did not disdain to mingle in these parties, and to acknowledge the rough but powerful fascination which hung on the lips of this unlettered soldier. Nor were his humor, mirth, and song confined to the march and the camp: in the thickest of the enemy's fire he was as merry and as vivacious as in the bivouac! 'Never,' said the officer who communicated to us these particulars, 'shall I forget the impression made upon my mind by hearing Mackay's full and deep-toned voice pealing forth "Scots, wha hae wi' Wallace bled," under the destructive diagonal fire from the enemy's artillery on the heights above the village of St. Boes. A soldier only knows the thrilling effect of such an incident at such a moment!'

Yet this singular man was seized with one of those *fatal presentiments* of which we have been speaking. On the eve of the battle of Toulouse, he suddenly became thoughtful and silent. His previous character rendered this alteration more apparent, and his comrades eagerly crowded round him to inquire the reason, being at first inclined to jibe him with what they called his 'Methodist face;' but, on observing his dejected look, the wild and unearthly expression of his eye, and the determined obstinacy with which he resisted all solicitations to join their party as usual, they stared at each other with astonishment, and ceased to annoy him.

It was his turn to go on duty to the outpost, and he consequently soon left them. On his way to his post, he met a young officer, who had shown him much kindness, and whose life he had been chiefly instrumental in saving. 'Ha, Mackay!' said the officer, 'is it you? Bless me, how ill you look! What's the matter? are you unwell? Stay—I will go to the colonel, and request him to let some one else take your duty.' 'I thank you kindly, Mr. M.,' said Mackay, respectfully saluting the officer. 'I am not unwell, and had rather go myself. But I have a favor to ask of you: you have always been kind, very kind, to me, and I am sure you will not refuse it.' 'What is it? Speak it out at once, man,' said Mr. M. 'It is *borne in* upon my mind that I shall fall to-morrow,' rejoined Mackay: 'here are ten dollars: will you take charge of them, and send them to my mother? You know where she lives; and—and—if it was not too much trouble, sir,' he added, his voice faltering, 'you might tell her, if you should see her—poor old woman!—that her son, devil as he has been, has never ceased, day nor night, to beg Heaven's blessing on her head, or to blame himself with leaving her solitary and destitute.'

The veteran wept like a child; and the young officer was scarcely less affected. Taking the money, he broke away from Mackay, in order to conceal his emotion; and he retired to his quarters, oppressed with the melancholy feelings which this strange scene had occasioned, but anxious, at the same time, to persuade himself that it was a mere hallucination of fancy, and that the poor fellow's mind was touched. On the succeeding day, however, when the remains of the regiment were mustered, Mackay was missing; but the tears of his surviving comrades sufficiently indicated the fulfilment of his presentiment. He had fallen late in the action, beside one of the redoubts, pierced with more than twenty bullets.

The last instance of *this* kind which we shall mention, is one that will probably make a greater impression than any of the preceding, as it relates to individuals of greater historical importance. Napoleon, on the 7th of May, 1796, had surprised the passage of the Po at Piacenza, while Beaulieu was expecting him at Valeggio, and General Laharpe commanding the grenadiers of advanced guard, fixed his head-quarters at Emetri, between Fiombio and the Po. During the night, Liptay's Austrian division arrived at Fiombio, which is only one league from the river; and having embattled the houses and steeples, filled them with troops. As the position was strong, and Liptay might receive reinforcements, it became of the utmost importance to dislodge him; and this, after an obstinate contest, was effected. Laharpe then executed a retrograde movement, to cover the roads leading to Pivia and Lodi. In the course of the night, a regiment of the enemy's cavalry appeared at his outposts, and created considerable

alarm, but, after a slight resistance, retired. Nevertheless, Laharpe, followed by a piquet and several officers, went forward to reconnoiter, and particularly to interrogate in person the inhabitants of the farm-houses on the road. Unfortunately, however, he returned to the camp by a different route from that by which he had been observed to set out; and the troops being on the watch, and mistaking the reconnoitering party for a detachment of the enemy, opened a brisk fire of musketry, and Laharpe fell dead, pierced by the bullets of his own soldiers, by whom he was dearly beloved. It was remarked that, during the action of Fiombio, throughout the evening preceding his death, Laharpe seemed very absent and dejected, giving no orders, appearing, as it were, deprived of his usual energies, and entirely absorbed by a fatal presentiment. Laharpe was one of the bravest generals in the army of Italy,—a grenadier both in stature and courage; and, although by birth a foreigner (a Swiss), he had raised himself to the rank of a general by his mere talent and bravery.

An anecdote, somewhat bearing upon the point, has just come into our recollection; and, as it is characteristic and striking, we offer no apology for its insertion. On the night before Massena's attack on Lord Wellington's position in the Sierra de Busaco, the troops, ignorant of the enemy's proximity, and fatigued with their day's march, had lain down on the summit of the ridge to take a little rest; and both men and officers were soon fast asleep. Amongst them was the gallant officer who then commanded the Connaught Rangers. He had not, however, slept long; before he started up, apparently in great alarm; and calling a young officer of the same regiment, who lay close by him, he said, 'D., I have just had a most extraordinary dream; such as I had once before, the night before an unexpected battle. Depend upon it, we shall be attacked very soon.' The young man immediately went forward; and, after looking between him and the horizon, and listening attentively to every sound and murmur wafted on the night-breeze, he returned and reported that all was still. The colonel was satisfied, and they again lay down. In less than half an hour, however, the colonel again started up, exclaiming in strong language, that, ere an hour elapsed, they should surely be attacked! On seeing the colonel and his young friend throw aside their cloaks, and move off, several of the officers by them took the alarm. And it was high time; for, on examination, it was found that the enemy's columns of attack were ascending the heights, with the utmost secrecy and expedition. Some of them had then reached the summit, and deployed into line, before the British were ready to attack them. They were immediately charged, broken, and driven down the declivity with great loss. It is remarkable that the same gallant officer, now a general, had a similar dream in Egypt, on the morning of the 21st of March, before the British position was attacked by the French, under cover of the darkness. The circumstance is certainly curious, although not exactly connected with the immediate subject of the present article.

The examples which we have hitherto adduced are exclusively referable to incidents of a military character; but many who reside in the secluded districts of Scotland, Ireland, and Wales, or even of more civilized countries, will find no difficulty to charge their memory with abundant proofs of the realization of the gloomy foreboding of these fatal presentiments; not occurring amidst the careless bustle of a camp, or the heedless hum and popularity of the busy world; but in the silent and secluded glen, the gloomy grove, or the pine-clad mountain. To a soldier, on the eve of battle, it is possible that a sad foreboding for the fortune of the morrow may find ready access to the heart. The bravest man may wish to live, if not for himself, at least for his wife and little ones, his parents, or his kindred. And the fond remembrance of these, rushing with all the force of separated affection into his bosom, may conjure up those feelings of despondency, which, in their extreme intensity, may constitute these fatal presentiments. But this cannot be said of those, who, pursuing their calm, sequestered path, on the wide road of human life, scarcely ever vary the events of their existence, and rarely quit the secluded spot which gave them birth. And that such persons are subjected to the occurrence of fatal presentiments, is too well known to need illustration here.

Supposing, then, that the occurrence of fatal presentiments be firmly established, is it possible, consistently with any known principle of the human mind, to offer any satisfactory explanation of this strange and mysterious phenomenon? It is obvious, from the preceding anecdotes, that this 'fatal presentiment' cannot be considered as a mental hallucination, engendered by cowardice or fear, as, in all the instances adduced, the individuals have been remarkable for their courage, firmness, and intrepidity. It is curious, too, that the most striking concomitant of this prophetic anticipation of death is the strong and overweening conviction of its positive realization.

It may be urged, that a person thus fatally possessed may become so careless of existence, as thereby to insure his destruction. Be it so; but, we ask, what originally induces the presentiment? Soldiers, and particularly veteran soldiers, familiar with danger and death, are not generally liable to be troubled with hypochondriac feelings, or with phantoms of visionary terror. The evils to which they are exposed are physical, not mental: their life has too much of stern reality in it to be embittered or disordered by the fanciful phantasmagoria of the brain: food and rest after fatigue, and, after battle, victory and glory, are commonly the prime objects with which they concern themselves. It is therefore highly improbable that such gloomy forebodings as those which we have narrated, should, in the first instance, be occasioned by any distempered affection of the mind; and it is no less improbable that the constant fulfilment of the prediction should be a mere accidental coincidence.

Upon what principle, then, are we to account for the appalling certainty of approaching death thus irresistibly 'borne in' (to use poor Mackay's words) upon the mind? By what secret interven-

tion is it thus, in some instances, assured of the near approach of an event, which, to the vast majority of men, 'clouds and shadows rest upon' till the fatal moment when it is revealed? Whence, too, the overwhelming conviction with which it is accompanied? We confess we cannot tell; but we believe the fact, because the moral evidence in its favor is irresistible. The physiology of the mind is a subject of which we must ever remain in total ignorance. Spurzheim may unravel all the perplexing convolutions of the brain; he may discover new organs, new passions, and new combinations; he may, in short, exert all that ingenuity for which he is so renowned; but he gains nothing by the effort but our admiration for his anatomical skill and dexterity. The mind may have *latent* powers, which can only be called into action by a particular combination of circumstances,—which combination may be of rare occurrence, and beyond the reach of our inquiries, when it does happen. Many of the lower animals are gifted with a presentiment of danger, the manner of acquiring which is probably as mysterious as that which we are now considering; and this seems to be given them by nature for their preservation.

Man, in general, is placed in a less enviable situation; because he has reason, instead of instinct, for his guide. Yet it has been believed, in all ages, that men have been, occasionally, forewarned of their approaching dissolution, and that 'sounds by no mortals made' are intelligible to 'death's prophetic ear.' This belief probably originated in the observation of facts similar to those we have been mentioning; but how, at the 'sunset of life, coming events cast their shadows before' is a mystery too abstruse for our mundane faculties. It is equally impossible, we suspect, even to conjecture, with any degree of plausibility, whether these premonitions result from any external consciousness, or external agency; from some latent power of the mind suddenly called into action, or from the immediate influence of that mighty Being, of whom it is only an emanation. Be this as it may, we have adduced a sufficient number of proofs to answer all the purposes of our argument, and to set our thinking readers reflecting on a subject of great and most interesting importance.

Toads. It is a common notion that these beautiful little animals suck poison from the earth. Now although this opinion is a fallacy, the toad is, nevertheless, one of the most useful animals in the world to the gardener. The toad lives entirely on animal food, eats it alive, and cares not a fig for Dr. Graham. The grubs and insects which he devours are very injurious to the young plants which are cultivated for the table. He comes out at night when the dampness of the air is agreeable to him, and when his prey are likewise wandering abroad, committing their depredations, and watches them as eagerly as a cat watches for mice. It is said that a few dozen of toads will destroy all the cabbage worms in a whole acre of land that is planted with cabbages, and be the means of saving the young plants from destruction.—*B. Post.*

THE ANT-LION AND LION-WORM.

Of all the creatures which secure their prey by stratagem, there is perhaps none more singular in its manners and habits than the ant-lion (*Formicaleo*). It is an inhabitant of the south of Europe. When full grown, its length is about half an inch; and in form it in some degree resembles a woodlouse: it has six legs, and the mouth is furnished with a forceps, consisting of two jaws curving inwardly, which give it a very formidable appearance.

But looking at its form alone, a person imperfectly acquainted with its habits and economy would be apt to set it down as the most helpless of all created animals. Its food consists solely of the juices of other insects, particularly ants; but at first view it appears impossible that it should ever secure a single meal; for its powers of locomotion are so feeble, that it can walk only at a very slow pace, and that backwards: he never follows his prey, and would sooner perish with hunger than advance one step towards it. Thus accomplished for the pursuit, it stands but a poor chance of being able to hunt down an active ant; nor would his prospects be mended by standing still: its grim and forbidding aspect is such as to deter every vagrant insect from venturing within its reach. In the choice of its food the insect shows itself a finished epicure: however pressed by the calls of appetite, it will taste no carcass except what it has itself killed; and of this it only extracts the finer juices. Thus delicate in its appetite, and thus apparently incapable of securing a supply of food, what is to become of the poor ant-lion? How does an insect, thus to all appearance unfitted by its natural habits to provide a supply even of the coarsest food, contrive to secure a succession of delicacies? It accomplishes by the refinement of art and stratagem, what would utterly baffle all its open exertions: it excavates a conical pit, and, concealing itself at the bottom, calmly lies in wait for any unlucky insect which may chance to stumble over the margin and fall into its den.

For the purpose of excavating this trap, it seeks a spot of loose and dry sand, under the shelter of an old wall, or at the foot of a tree. Two circumstances incline it to select a spot of this description: in such a soil, its snare is constructed with the least possible trouble; and the prey most agreeable to its appetite particularly abounds in such places. Having fixed upon a spot proper for its purpose, it traces in the sand a circular furrow which is to determine the extent of its future abode. The outline of the hollow which it intends to excavate being drawn, it proceeds with its task. Placing itself on the inside of the circular furrow

previously traced, it thrusts the hind part of its body like a ploughshare, under the sand; and, using one of its fore legs as a shovel, it deposits a load of sand upon its head, which is flat and square: it then gives its head a jerk, sufficiently strong to toss this load to a distance of several inches beyond the outward circle. All this is executed with a wonderful degree of celerity and address. Always going backwards, the same process is repeated, until it reaches that part of the circle where it commenced its operations. Another furrow is then excavated inside of the first circle: this is succeeded by others, until at last the insect arrives at the centre of its intended hollow. One peculiarity deserves to be pointed out: the insect neither uses its outward leg, nor disturbs the sand lying on the outside of the circle; using the inner leg only, it loads its head with sand taken from the inside of the circle. It seems to be well aware that the sand within the circle is all that requires to be removed, and also that this can be effected only by using the inside leg. If both the legs were used at the same time, the excavation would assume the shape of a cylinder, and not that of a cone; which is the only form that can suit the purpose of the insect. It must, however, be obvious, that if, throughout the whole of this laborious process, one leg continued to be exclusively used, the limb would get tired. To obviate this inconvenience, nature has taught the little pioneer to adopt an apt expedient: one furrow having been completely excavated, another is traced in an opposite direction: this brings into play the leg which had been previously at rest. It frequently happens that small stones impede the progress of its labors: these are all, one by one, placed upon its head, and jerked beyond the outer margin of the excavation. But when arrived near the bottom, it sometimes encounters a pebble too large to be removed even by this process, its head not having sufficient breadth and strength to bear so bulky and so heavy a substance, while the hole is too deep to admit of its being projected over the margin. In this dilemma the little engineer is not destitute of resources. A new mode of proceeding is adopted, suitable to the difficulty which the insect has to overcome. By a series of the most ingenious movements, it contrives to lift the pebble upon its back, where it is kept in a steady position by means of the segments which compose that part. Having thus secured the pebble from the chance of falling, the indefatigable laborer resolutely walks, tail forwards, up the slope of the excavation, and deposits its burden on the outside. When the stone to be removed happens to be round, the insect's task becomes more arduous and difficult: in this emergency, the proceedings of the little ant-lion cannot fail to excite the deepest sympathy. With incredible exertion it lifts the pebble on its back: it then commences its retrograde ascent up the slope of the den; but at every step of its progress, the load may be seen to totter to one side or the other; but the expert porter elevates the segments of its back in order to restore the balance. It sometimes occurs, that, when it has very nearly reached the top of the excavation, a false step causes it to stumble: in this unlucky case, all its efforts are frustrated, and the stone rolls headlong to the bottom. Mortified, but not despairing, the unwearied ant-lion returns to the charge; again places the stone on its back, and again ascends the sloping side, artfully availing itself of the channel which had been formed by the rolling stone, the sides of this channel frequently serving to support the load. Throughout the whole progress of the work, the insect shows itself a most expert engineer. It describes a perfect circle, and traces out a volute, without the assistance of a pair of compasses; and gives the slope of earth which it hollows all the solidity of which it is susceptible.

Desirous to witness the ingenuity and try the perseverance of one of these creatures, M. Bonnet threw a good-sized pebble into the den: its removal seemed to be quite essential, for the ant-lion left its work to effect it. To toss it out was beyond its power: it therefore determined to carry it up the declivity. For this purpose it insinuated its tail under the offending impediment, and by moving the rings of its body, hoisted it gradually on its back; thus loaded, it set off with its burden, walking backwards up the sloping side of the hole. Of course every step made this stone shake and overbalance; but it was righted in a trice by a due adjustment of the body of the insect, or a proper movement of the rings which compose it. Five or six times successively, the stone fell off, in spite of all the skill and patience of the creature, and five or six times, Sysiphus-like, it renewed its efforts. In some instances, success attended his patient labors; in others, its efforts proved unavailing; but rather than submit to the inconvenience of a pebble which could offer the means of escape to its prey, the insect chose to quit the den and begin a new one. Another, however, acting with more sagacity, simply drove the stone into the sandy walls of the den, and thus effectually abated the nuisance with little trouble.

All difficulties having been at length surmounted, the pit is finished; it is a conical excavation, rather more than two inches deep, and about three inches in diameter at the top, gradually diminishing in its dimensions until it becomes no more than a point at the bottom. It is at this narrow part of the den that the ant-lion now takes its station; and lest its uncouth and forbidding appearance should scare away any prey which might happen to approach its lurking hole, it conceals its whole body under a layer of sand, except the points of its expanded forceps, which stick out above the surface. It seldom happens that much time elapses before some vagrant ant, unsuspicious of danger, arrives upon the margin of the den. Impelled by some fatal motive, it is prompted to explore the depth below; and bitterly is it made to rue its prying intrusion. The treacherous sand gives way under its feet; the struggles which it makes to escape serve but to accelerate its descent; and it falls headlong into the open forceps of its destroyer. The ant, however, sometimes succeeds in arresting its downward progress half way, when it uses every effort to scramble up the sloping side.

Furnished with six eyes on each side of the head, the ant-lion is sufficiently sharp-sighted to perceive this manœuvre. Roused by the prospect of losing the expected delicacy, it instantly throws off its inactivity, shovels loads of sand upon its head, and vigorously throws it after the retreating victim. The blows which the ant thus receives from substances comparatively of great size, soon bring it down within the grasp of the terrible pincers which are extended to receive it. If one shower should fail, another soon follows, and lucky indeed must be the insect which can effect its escape.

Very few species of insects, not excepting its own, come amiss to this voracious creature. Reaumur cut the wings of a bee, and threw it, thus irritated, into the den of an ant-lion. The creature, seizing the bee by the back, and holding it suspended in the air, disabled it from using its sting. It made, however, a terrible struggle, but on every motion the ant-lion dashed it forcibly against the sand. Thus beaten and wounded, the bee yielded up the contest with its life, and was sucked at leisure by its enemy. When its prey has been drained dry, it casts the skin with a jerk far from its cave, lest the relics should embarrass it in its future contests, or deprive it of future visits, by bringing its place of residence into bad repute. Any damage which the den may have sustained during these struggles is carefully repaired; and the ant-lion resumes its station at the bottom, and patiently awaits the approach of more prey.

The ant-lion will not take a dead insect, however recently killed. Reaumur tempted it with fine, fat blue-bottles, but these it would not touch. Those insects, too, whose instincts teach them to simulate death when danger is near, escape the fangs of the ant-lion.

If it has long missed its necessary supply of game, it concludes its place of ambuscade to have been badly selected, and moves to another spot; or, if the hole has been so long occupied that the frequent crumbling of the sides has rendered the descent too easy, it is forsaken. Its progress on these occasions may be seen in the following figure.

To this species of life the ant-lion is destined for about two years; after this period, it passes from its state of larva into that of nymph. It then buries itself entirely in the sand. With a kind of viscid substance, which appears to exude from the pores of the skin, it glues together a crust which encompasses its whole body; this covering is round, and about half an inch in diameter, which affords the insect sufficient space for motion; but it is not content with the shelter of a bare wall, which would inevitably chill it; it therefore spins out of its own bowels a thread, which in fineness infinitely surpasses that of the silk-worm. This thread it fastens first to one place, and then extends it to a second, crossing and interlacing it: by this means it hangs all its apartment with a satin tinged with the color of pearls, and exquisite both in beauty and delicacy. In this work all the propriety and convenience is confined to the inside, for nothing appears without but a little sand, which confounds and incorporates the mansion with the contiguous earth. Here, in a state of oblivion and tranquillity, it remains secluded from the world for the space of about two months, when it divests itself of its eyes, horns, paws, and skin; its spoils sink to the bottom of the ball like a heap of rags; all that now remains is a nymph, which has other eyes and paws; other entrails and wings, enveloped in a second skin, and a nutritious liquor which gradually strengthens the new animal. When its new limbs have acquired their necessary tone and activity, it tears away the tapestry of its apartment and pierces through the walls; for which purpose it employs a couple of teeth like those with which the grasshopper is furnished. Its efforts to escape become now more strenuous; the opening gradually enlarges; half the body is first thrust out, and at last the whole emerges. Its long body, which at this moment winds like the volute of an Ionic capital, and fills only a space of about a quarter of an inch, begins to unfold and expand itself, and in an instant stretches to the length of an inch and a quarter. Its four wings, which were contracted in little folds, and whose dimensions did not exceed the sixth part of an inch in the film that sheathed them, begin to expand, and in the space of two minutes shoot into a greater length than the whole body. In a word, the ravenous and malignant ant-lion assumes the form of a large and beautiful fly, very closely resembling the dragon-fly, which, after it has for some time continued immovable and apparently astonished at the prospect of nature, flutters its wings and enjoys a liberty unknown to it in its former obscure condition.

And as it has cast off the spoils and cumbersome weight of its first form, so is it likewise divested of its barbarity and pernicious inclinations; it comes forth an entirely new creature, full of gayety, alacrity and vigor, and graced with a noble and majestic air. It then proceeds to deposit an egg in some sandy spot; from this egg an ant-lion emerges, which in its turn becomes changed into a fly.

The lion-worm (*Leptis*) is a curious and voracious little creature, having a tapering form; the head being more pointed than the tail. Its instincts are very similar to those of the ant-lion; for,

like that formidable insect, it makes a species of cavity in the loose earth, and there waits in ambuscade for its prey. A portion of its body lies concealed under the sand; the rest stretches across the bottom of the den, and appears so stiff and motionless, that, at first sight, it might be taken for a bit of straw, half an inch in length. If, however, any insect, in search of food, should happen to walk into the cave of the lion-worm, the little morsel of stubble in an instant becomes all animation, falls like a serpent on its prey, and winding its body in coils around its victim, compresses it to death, and sucks out the juices by means of a couple of hooks fixed to its head. When a strong insect happens to be thus captured, it might fly away with the lion-worm, if nature had not furnished the latter with means of fixing itself suitable to the emergency. It bends a part of its body into the shape of a hook; this is then thrust under the sand, and serves as an anchor to hold the insect, while the upper part of the body remains at liberty to master and devour the prey. If the prey, eluding its serpent-like grasp, should begin to make its way up the sides of the den, the cunning hunter resorts to the very same expedient as the ant-lion; by means of its head, it sends forth a shower of sand with such marvellous agility and precision of aim, that it rarely fails to bring the battered game once more within the reach of its formidable pincers.

The leptis ultimately turns into a sort of fly, with a long and thin body.—*N. H. of Insects.*

[From the N. A. Review.]

LONDON.

We have an affection for a great city. We feel safe in the neighborhood of man, and enjoy 'the sweet security of streets.' The excitement of the crowd is pleasant to us. We find sermons in the stones of sidewalks. In the continuous sound of voice, and wheels and footsteps, we hear 'the sad music of humanity.' We feel that life is not a dream, but an earnest reality; that the beings around us are not the insects of a day, but the pilgrims of an eternity; they are our fellow-creatures, each with his history of thousandfold occurrence, insignificant as it may be to us, but all-important to himself; each with a human heart, whose fibres are woven into the great web of human sympathies; and none so small that, when he dies, some of the mysterious meshes are not broken. The green earth, and the sea, all living and all lifeless things, preach unto us the gospel of a great and good Providence; but most of all does man, in his manifold powers, and wants, and passions, and deeds, preach this same gospel. He is the great evangelist. And though oftentimes unconscious of his mission, or reluctant to fulfil it, he leads others astray, even then to the thoughtful mind, he preaches. We are in love with nature. The face of man is a benediction to us. The greatest works of his handicraft delight us hardly less than the greatest works of nature. They are the 'masterpieces of her own masterpiece.' Architecture, painting, music, epic poems, and all the forms of art, wherein the hand of genius is visible, please us evermore, for they conduct us into the fellowship of great minds. And thus our sympathies are with men, and streets, and city gates, and towers, from which the great bells sound solemnly and slow, and cathedral doors, where venerable statues, holding books in their hands, look down like sentinels upon the church-going multitude, and the birds of the air come and build their nests in the arms of saints and apostles. And more than all, in great cities we learn to look the world in the face. We shake hands with stern realities. We see ourselves in others. We become acquainted with the motley, many-sided life of man; and finally learn, if we are wise, to 'look upon a metropolis as a collection of villages; a village as some blind alley in a metropolis; fame as the talk of neighbors at the street doors; a library as a learned conversation; joy as a second; sorrow as a minute; life as a day; and three things as all,—God, Creation, Virtue.'*

Now, of all cities, is London the monarch. To us, likewise, is it the Great Metropolis. We are not cockneys. We were born on this side of the sea. Our family name is not recorded in the Domesday Book. It is doubtful whether our ancestral tree was planted so far back as the Conquest. Nor are we what Sir Philip Sydney calls wry transformed travellers. We do not affect a foreign air, nor resemble the merry Friar in the Canterbury Tales, of whom the Prologue says,—

> 'Somewhat he lisped for his wantonnesse,
> To make his English sweet upon his tongue.'

Nevertheless to us likewise is London the monarch of cities. The fact, that the English language is spoken in some parts of it, makes us feel at home there, and gives us, as it were, the freedom of the city. Even the associations of childhood connect us with it. We remember it as far back as the happy days when we loved nursery songs, and 'rode a-horseback on best father's knee.' Whittington and his cat lived there. All our picture books and sisters' dolls came from there; and we thought, poor children! that every body in London sold dolls and picture books, as the country boy imagined that every body in Boston sold gingerbread, because his father always brought some home from town on market days. Since those times we have grown wiser. We have been in St. Paul's churchyard, and know by heart all the green parks and quiet squares of London. And now finally, for us grown-up children, appears the New London Cries, this book of the Great Metropolis.

Forty-five miles westward from the North Sea, in the lap of a broad and pleasant valley watered by the Thames, stands the Great Metropolis, as all the world knows. It comprises the city of London and its Liberties, with the city and Liberties of Westminster, the borough of Southwark, and upwards of thirty of the contiguous villages of Middlesex and Surry. East and west, its greatest length is about eight miles; north and south, its greatest breadth about five; its circumference from

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* Jean Paul.

twenty to thirty. Its population is estimated at two millions. The vast living tide goes thundering through its ten thousand streets in one unbroken roar. The noise of the great thoroughfare is deafening. But you step aside into a by-lane, and anon you emerge into little green squares half filled with sunshine, half with shade, where no sound of living thing is heard, save the voice of a bird or a child, and amid solitude and silence you gaze in wonder at the great trees, 'growing in the heart of a brick and mortar wilderness.' Then there are the three parks, Hyde, Regent's, and St. James's, where you may lose yourself in green alleys, and dream you are in the country; Westminster Abbey, with its tombs and solemn cloisters, where, with the quaint George Herbert, you may 'think that when the bells do chime, 'tis angels' music;' and high above all, half hidden in smoke and vapor, rises the dome of St. Paul's.

These are a few of the more striking features of London. More striking still is the Thames. Above the town, by Richmond Hill and Twickenham, it winds through the groves and meadows green, a rural, silver stream. The traveller, who sees it here for the first time, can hardly believe that this is the mighty river which bathes the feet of London. He asks, perhaps, the coachman, what stream that is, and the coachman answers, with a stare of wonder and pity, 'The *Tems*, sir.' Pleasure boats are gliding back and forth, and stately swans float, like water lilies, on its bosom. On its banks are villages, and church towers, beneath which among the patriarchs of the hamlet, lie many gifted sons of song,

'In sepulchres unhearsed and green.'

In and below London, the whole scene is changed. Let us view it by night. Lamps are gleaming along shore, and on the bridges, and a full moon rising over the borough of Southwark. The moonbeams silver the rippling, yellow tide, wherein also flare the shore lamps, with a lambent, flickering gleam. Barges and wherries move to and fro, and heavy laden luggers are sweeping up stream with the rising tide swinging sideways, with loose, flapping sails. Both sides of the river are crowded with sea and river craft, whose black hulks lie in shadow, and whose tapering masts rise into the moonlight like a leafless forest. A distant sound of music floats on the air; a harp and flute, and a horn. It has an unearthly sound; and lo! like a shooting star, a light comes gliding on. It is the signal at the masthead of a steam vessel, that flits by, like a cloud, above which glides a star. And from all this scene goes up a sound of human voices —curses, laughter and singing—mingled with the monotonous roar of the city, 'the clashing careering streams of life, hurrying to lose themselves in the impervious gloom of eternity.' And now the midnight is past, and amid the general silence, the clock strikes one, two. Far distant, from some belfry in the suburbs, comes the first sound, so indistinct as hardly to be distinguished from the crowing of a cock. Then close at hand the great bell of St. Paul's, with a heavy, solemn sound—one, two. It is answered from Southwark; then at a distance like an echo, and then all around you, with various and intermingled clang, like a chime of bells, the clocks from a hundred belfries strike the hour. But the moon is already sinking, large and fiery, through the vapors of morning. It is just in the range of the chimney and house-tops, and seems to follow you with speed as you float down the river, between unbroken ranks of ships. Day is dawning in the east, not with a pale streak in the horizon, but with a silver light spread through the sky, almost to the zenith. It is the mingling of moonlight and daylight. The water is tinged with a green hue, melting into purple and gold like the brilliant scales of a fish. The air grows cool. It comes fresh from the eastern sea, toward which we are swiftly gliding, and dimly seen in the uncertain twilight behind you rises

'A mighty mass of brick, and smoke, and shipping,
Dirty and dusky, but as wide as eye
Can reach; with here and there a sail just skipping
In sight, then lost amid the forestry
Of masts; a wilderness of steeples peeping
On tip-toe through their sea coal canopy:
A huge dun cupola, like a foolscap crown
On a fool's head—and there is London town.'

From the New Yorker.

THE DYING DAUGHTER'S APPEAL.

My father! thou hast long disowned
Thy erring and misguided child;
But now, in this last hour, again
Receive thy lost, thy long exiled!

My hours on earth are fleeting fast;
Oh then thou wilt no longer pour
Thine anger on thy faulty child,
Who never can offend thee more.

O could'st thou see the feeble light
That glimmers in this sunken eye,
Thou would'st not leave thine only child,
In this sad hour alone to die!

O could'st thou feel but half the pangs
That wring this worn and anguish'd breast,
Thou would'st not thus so coldly spurn
Thy dying daughter's last request.

I know that I have deeply sinn'd,
And forfeited a daughter's claim;
Yet let this dying hour atone
For all my wrongs and thy deep shame.

Recall my young, unsullied years,
When thou wert wont with fond caress
To greet thy child and bless her name
With all a parent's tenderness.

I pray thee, by the memory
Of those fond hours forever gone—
By her who slumbers in the dust—
Receive me now as all thy own!

Father! the life-fire burneth low
In the chambers of this stricken heart;
O, on my poor defenceless head
Thy blessing shed ere life depart!

O, as thou hop'st to be forgiven,
And mercy find in thy last hour,
Retract the deep and heavy curse
That weighs me down with fatal power!

Father! the streams are freezing fast
Around this heart with misery wild;
I pray thee, by this agony,
Bless—bless thy own, thy dying child.

JAMES MONROE.

James Monroe, the fifth president of the United States, was born on the 28th of April 1758,* in the county of Westmoreland, in the then colony of Virginia. At the time of the Declaration of Independence he was in the process of completing his education at the college of William and Mary. He was then seventeen years of age, and at the first formation of the American army entered it as a cadet. Had he been born ten years before, it can scarcely be doubted that he would have been one of the members of the first congress, and that his name would have gone down to posterity among those of the signers of the Declaration of Independence.

He joined the standard of his country when others were deserting it. He repaired to the head quarters of Washington at New York, precisely at the time when Britain was pouring her thousands of native and foreign mercenaries upon our shores; when, in proportion as the battalions of invading armies thickened and multiplied, those of the heroic chieftain of our defence were dwindling to the verge of dissolution. Monroe, at that time a lieutenant, took a part in the engagement at Harlaem Heights and at White Plains, and was with the army in their distressing retreat through the Jerseys. In the battle of Trenton he received a wound in the shoulder, while fighting bravely in the van of the army. As a reward for his gallantry on this occasion, he was promoted to a captaincy. Having recovered from his wound, he soon returned to the army, and served as aid-de-camp to Lord Stirling, through the campaigns of 1777 and 1778, in the course of which he was present and distinguished himself in the actions of Brandywine, Germantown, and Monmouth. At length, being dissatisfied with this situation, he returned to Virginia, and endeavored to raise a regiment, but not succeeding, in consequence of the exhausted state of the country, he entered the office of Mr. Jefferson as a student at law. In 1780, at the request of Governor Jefferson, he repaired as a military commissioner, to collect and report information with regard to the condition and prospects of the southern army and States; a trust which he discharged to the entire satisfaction of the governor and executive, under whose appointment he had acted.

In 1782, he was elected a member of the legislature of Virginia, and by them a member of the Executive Council. On the 9th of June, 1783, he was chosen a member of the congress of the United States; and on the 13th of December of the same year, took his seat in that body, at Annapolis, where his first act was, to sit as one of those representatives of the nation, into whose hands the victorious leader of the American armies surrendered his commission. Mr. Monroe was now twenty-four years of age, and had already performed that, in the service of his country, which would have sufficed for the illustration of an ordinary life. Three years, from 1783 to 1786, Mr. Monroe continued a member of the confederate congress, and had continual opportunity of observing the utter inefficiency of that compact for the preservation and welfare of the Union.

Toward the close of the year 1786, he formed a matrimonial connexion with Miss Kortright, daughter of Mr. L. Kortright, of an ancient and respectable family of New York. This lady, of whose personal attractions and accomplishments it were scarce possible to speak in terms of exaggeration, was, for a period little short of half a century, the cherished and affectionate partner of his life and fortunes. He survived her but a few months.

After leaving congress, he was almost immediately elected to a seat in the legislature of Virginia; and the ensuing year, to the convention, summoned in that State, to discuss and decide upon the constitution of the United States. In the final question, he was found in the minority in his vote against that instrument which he was so many years called to see carried into execution. From 1790 to 1794, he was a member of the senate of the United States, and was taken from that body to be envoy extraordinary and minister plenipotentiary from this country to France. From this mission he was recalled near the close of Washington's administration. After his return, he served three years as governor of Virginia. In 1803, he was appointed by Mr. Jefferson envoy extraordinary and minister plenipotentiary to France, to act in conjunction with Mr. Livingston, the minister resident there. They negotiated a treaty, by which France ceded Louisiana to the United States.

From France Mr. Monroe was sent to succeed Rufus King, at the court of London. From England he was ordered to Spain, which country he

* This is the date of his birth as given in the National Portrait Gallery. Mr. J. Q. Adams, in his Eulogy on Monroe, states that he was born in September, 1759.

visited by the way of France. Thence he returned again to England, after the death of Mr. Pitt, to negotiate with Mr. Fox, his successor. At the close of the year 1807, he returned to the United States. 'After a short interval passed in the retirement of private life, he was again elected governor of Virginia, and, upon the resignation of Robert Smith, was, in the spring of 1811, appointed by President Madison, Secretary of State. This office he continued to hold during the remainder of the double presidential term of Mr. Madison, with the exception of about six months at the close of the late war with Great Britain, when he discharged the then still more arduous duties of the War Department. On the return of peace he was restored to the Department of State; and on the retirement of Mr. Madison, in 1817, he was elected President of the United States, and reëlected without opposition in 1821. On the third of March, 1825, he retired to his residence in Loudoun county, Virginia. Subsequently to that period, he discharged the ordinary judicial functions of a magistrate of the county, and of curator of the University of Virginia. In the winter of 1829–30, he served as a member of the convention called to revise the constitution of that commonwealth; and took an active part in their deliberations, over which he was unanimously chosen to preside. From this station, he was, however, compelled, before the close of the labors of the convention, by severe indisposition, to retire. The succeeding summer, he was, in the short compass of a week, visited by the bereavement of the beloved partner of his life, and of another near, affectionate, and respected relative. Soon after these deep and trying afflictions, he removed his residence to the city of New York; where, surrounded by filial solicitude and tenderness, the flickering lamp of life held its lingering flame, as if to await the day of the nation's birth and glory; when the soldier of the Revolution, the statesman of the confederacy, the chosen chieftain of the constituted nation, sunk into the arms of slumber, to awake no more upon earth, and yielded his pure and gallant spirit to receive the sentence of his Maker.'*

On the whole, Mr. Monroe may be regarded, if not one of the greatest, yet one of the most fortunate and successful of American statesmen. During the period of half a century, he almost constantly filled some high and responsible station. His political ambition was constantly gratified; and from his youth upwards, he was so intimately connected with the progress of events in our history, that something relating to him must appear in almost every page of our annals.

AUSTRALASIAN DOG.

The Australasian dog (or *Dingo*, according to Shaw, and, according to Desmarest, *Canis famil. Australasiæ*) is a dog in a half-domesticated state, found in South Wales. The species is common in the neighborhood of Port Jackson, and is found on all parts of the coast. The accompanying cut

represents a fine male specimen which was presented to the well-known Zoological Society in England by Captain Murray.

The Australasian dog, according to *The Menageries*, from which we quote, is classed by M. Desmarest as a variety of the matin, the anatomical character of which is,—the head more or less elongated; the parietal bones insensibly approaching each other; and the condyles of the lower jaw placed in a horizontal line with the upper cheek teeth. His shape and proportions, as described by the same accurate observer, are like those of the shepherd's dog, excepting the head, which entirely resembles the French matin. His body is thick with hair; his tail bushy: the hair is of two sorts; one woolly and gray, the other silky and of a deep yellow. The color is deepest on the top of the head, and on the upper parts of the neck and tail, and the back; the under parts of the neck and tail are paler: the muzzle and face, and the inner side of the hams, are whitish. The tail has eighteen vertebræ (dogs in general have nineteen). The length of the carcass, from the point of the nose to the commencement of the tail, is two feet five inches. This dog possesses great agility, and is full of courage; when running, he carries his head up, and his tail raised or extended horizontally; and he is very voracious, seizing upon every sort of animal food that comes in his way.

The Australasian dog in the Zoological Gardens differs very little from these particulars. It is difficult to describe colors by words; but it appears to us that the animal partakes more of red than yellow. He is kept strictly confined, though gentle under confinement; but for some time he retained his natural wild aspect. Mr. Pennant relates that a similar dog carried to England was very voracious and fierce; and that he leaped on the back of an ass, and would have destroyed it in a short time, had not the animal been rescued. Mr. Gray, in his Appendix to Captain King's Survey of the Coast of Australia, says, that 'although occasionally domesticated in New South Wales, they never lose the sly habits peculiar to their breed, nor can be prevented from killing poultry, or biting sheep.' This account is quite borne out by the character of the individual dog before us. After his arrival in England, at the house of a nobleman where he was confined, he one night broke

* Adams's Eulogy.

his chain, scoured over the country, and, before morning, had destroyed several sheep.

The natural habits of the species are not *entirely* overcome by domestication. The well-fed dog, however he may know from experience that he shall receive a regular meal from the hand of his master, often hides his food; although, perhaps, he never returns to his concealed stores: this is an hereditary habit, transmitted to him from a distant period, when his species were dependent upon chance for the supply of their necessities. The Australasian dog, who is taken from a country very imperfectly civilized, and who has perhaps lived in packs, associated in the pursuit of the penguin and the kangaroo, cannot readily put on the subordination of the mastiff or the spaniel. Even among the best disciplined domestic dogs, the ancient instinct, which renders them beasts of prey, sometimes breaks out. We recollect several instances of house-dogs having taken, as the farmers expressed it, to worrying sheep; they would do this slily, and would sometimes effect the most lamentable destruction. There is no remedy short of the capital punishment of such offenders; for they can never be broken of the habit, when it has been once indulged. Bewick, in his History of Quadrupeds, relates a story of a dog, who, in 1784, had been left on the coast of Northumberland by the crew of a smuggling vessel. Finding himself deserted, and without food, he began to worry sheep, and was soon the terror of the country. He would bite a hole in the right side of the poor animals, eat the fat about the kidneys, and then leave them. The farmers were so much alarmed by his depredations, that very extraordinary means were used for his destruction: they chased him with dogs, as they would a fox or wolf; but when the dogs came up to their guilty fellow, he invariably lay down in a supplicating posture, and thus they could never be induced to harm him. He was one day pursued from Howick to upwards of thirty miles distance; but he returned thither, and killed sheep the same evening. He was at last shot, after a three months' career of murder, upon a rock which commanded a view of four roads; and where he constantly sat, like a guilty outlaw, watching the approach of his pursuers, and ready for escape. The practice of this dog was evidently the result of an hereditary instinct, accidentally called into action by want of food.

Not only are natural habits transmitted especially to dogs, by their parents, but even some of their acquired qualities. The pointer is of Spanish origin; and those of the staunchest kind in this country are crossed with the fox-dog, to increase their speed. The natural instinct of the pointer, as seen at the present day, in the true Spanish race, is to wind game; to steal upon them by surprise; and then, pausing for an instant, to spring upon them with an unerring aim, derived from this pause. The crossed breed in England is less disposed, by its original nature, to stop at game, than the Spanish progenitor. But education has converted the rapid rest and spring of the original Spanish pointer into the fixed and deliberate rest of the staunch dog: as a writer on this subject has quaintly, but forcibly, expressed it, 'this sort of semicolon in his proceedings man converts into a full stop.' The *cultivated* stanchness of the pointer is inherited by his puppy, which may be seen earnestly standing at pigeons or sparrows, in a farm-yard: he inherits the acquired faculty of his parent; and his master afterwards gives it a direction.

AMERICAN SHORT HORN BULL.

In the first and second volumes, and succeeding numbers of our Magazine, which, we are gratified to state, meets with a constant, and rapidly increasing sale throughout the republic, will be found popular engravings and accounts of many of the wild animals of America and other countries. We do not, however, by any means, intend to confine our drawings, researches, or observations, so far as they may relate to zoology, solely to wild animals. We are aware that not a few of our readers take a lively interest in those of a different kind; and for the information and entertainment of such patrons, as well as others, our purpose is, at proper intervals, to diversify our work with descriptions and embellishments of the most remarkable domesticated and useful quadrupeds. In this number we present an engraving of a bull of the best improved short horn race, together with a general account of that celebrated breed of cattle.

The Short Horns. Different opinions may prevail respecting the merits of the several breeds of cattle, yet the short horns present themselves to notice under circumstances of peculiar interest. Possessing, in an eminent degree, a combination of qualities which has generally been considered incompatible, and rendered attractive to the eye by their splendid frames and beautifully varied colors, it is not surprising that they have become objects of public curiosity; that they have realized for their owners abroad, if not here, enormous sums of money; and that, throughout England, and in every other country where agriculture is attended to, they are increasing in demand. From the earliest periods as to which we have accounts of the breeds of cattle, Durham and York counties in England have been celebrated for their short horns, but principally, in the first instance, on account of their reputation as extraordinary milkers. It may be asserted, on the best evidence, that, taken as a breed, they have never in this particular, been equalled. The cattle so distinguished were always, as now, very different from the improved race. They were generally of large size, thin-skinned, sleek-haired, bad handlers, rather delicate in constitution, and strikingly defective in the substance of girth in the fore quarters. As milkers, they were most excellent, but when put to fatten, were found slow feeders, producing an inferior quality of meat, not marbled or mixed as to fat and lean, and in some cases, the latter were found of a particular dark hue. Such also are the unimproved short horns of the present day. More than eighty years have elapsed, since the short horns, on the banks of the Tees, hence called the Teesewater

AMERICAN SHORT HORN BULL.

breed, assumed a very different character from that mentioned above. In color they resembled the improved short horns, being occasionally red, red and white, and roan, though the last named color was not then so prevalent as at present. They possessed a fine mellow skin and flesh, good hair, particularly wide carcasses, and fore quarters of extraordinary depth and capacity. When slaughtered, their proof was extraordinary, and many instances are recorded of the wonderful weight of their inside fat.

The remarkable difference between the Teesewater and the old unimproved short horns may be ascribed to a spirit of improvement among the managers on the banks of the Tees, whose efforts were well seconded by the superior land in the vicinity of that river. Mr. Milbank, one of the leading improvers, bred and slaughtered an ox, which at five years old weighed 4 quarters, 150 stones, of 14 pounds to the stone, producing 16 stones of tallow; and a cow from his stock, slaughtered by Mr. Chilton, at twelve years old, weighed upwards of 110 stones. From this time the Teesewater cattle sustained their excellence and celebrity in various hands, till Mr. C. Colling adopted them, when he manifested such skill in managing them, as in a brief period, secured him an ample fortune. He found them like other extravagantly large cattle, frequently of loose make and disproportion; and he endeavored to reduce the size, and by that means improve the form.

Durham Ox. But the circumstance that brought the improved short horns into most extensive notice, was the production of the celebrated Durham ox. At five years old, this animal was sold to Mr. Bulmer, for public exhibition, at the price of $700; this was in February, 1801. He was then computed to weigh 168 stones of 14 lbs., his live weight being 216 stones; and this extraordinary weight did not arise from his superior size, but from the excessive ripeness of his points. Mr. Bulmer, having obtained a carriage for his conveyance, travelled with him five weeks, and then sold him and the carriage to Mr. I. Day, on the 14th of May, 1801, for $1250; on the 14th of May, Mr. Day could have sold him for $2625; on the 13th of June, for $5000; and on the 8th of July, for $10,000. Mr. Day travelled with him for nearly six years, through England and Scotland, till at Oxford, on the 19th of February, 1807, the ox dislocated his hip-bone, and continued in that state till the 15th of April, when he was slaughtered, and, notwithstanding he must have lost considerably in weight, his carcass weighed.

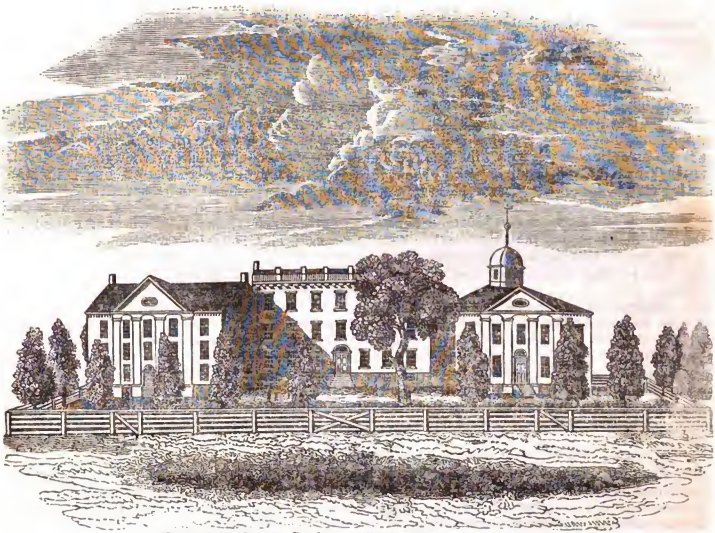
	Imp. Stones	Lbs.
Four quarters,	165	12
Tallow,	11	2
Hide,	10	2

This was his weight at eleven years old, under all the disadvantages of travelling in a jolting carriage, and eight weeks of illness. Had he been kept quietly and fed till seven years old, he would probably have weighed more than he did at ten, when his live weight is stated to have been nearly 3400 weight, or 270 stones, from which, if 50 be taken for refuse, it leaves for the weight of the carcass 220 stones. Early maturity is the grand characteristic of the short horns, and their capacity to continue growing, and at the same time attaining extreme ripeness of condition at an early age, has excited the wonder and approbation of every unprejudiced examiner.

In 1808, Mr. Bailey saw a cow not less remarkable in point of fat than the Durham ox. The depth of fat from the rump to the hips, in a perpendicular position, was not less than twelve inches; and the shoulder-score, at least nine inches thick. But every perfection in cattle can be promoted and retained solely by the manager's devoted attention to his particular object; and if one object be allowed a paramount importance in his practice, others will suffer in proportion as they are neglected. The improvement in the carcass of the short horns has been so surprising and so justly valued, that many have allowed that completely to occupy their attention; and the dairy has been neglected.

The excessive quantities of milk obtained from the unimproved short horns are seldom if ever obtained from the improved ones; but a moderately good milker of the latter kind will yield as much butter in a week as one of the former, the milk being unquestionably of a very superior quality; and improved short horns, inferior to none for the grazier, may always be selected and bred with the most valuable dairy properties. It is said that the short horns are unfitted for work. In a degree, this is true; they are, however, both able and willing to labor; but cattle which will go as profitably to the butcher at two years old, as any other breed at three, and as many even at four, ought never, as a general rule, to be placed in the yoke. Where it may be convenient the short horns, particularly the bulls, work admirably, as their docility promises; and as the bulls of this breed acquire too much flesh in confinement, moderate labor might, in most cases, prove beneficial. The colors of the improved short horns are red or white, or a mixture of the two, combining in endless variety, and producing very frequently, effect. The white they probably obtained from the wild breed; and whenever this color shows itself it is accompanied, more or less, with a red tinge on the extremity of the ear; a distinctive character also of the wild cattle. No *pure improved short horns* are found of any colors but those above named.

The short horn bull, whose cut (taken from a drawing when eighteen months old), accompanies this article, was lately, and we believe is still owned by Lewis Eaton, Esquire, of Lockport, N. York. He was raised from an imported cow of the same breed, owned by Caleb N. Bement, Esquire, of Albany. He is three years old, and is considered a very superior specimen of the improved short horn breed. He is well known to the farmers and lovers of good cattle throughout the State of New York; and we believe that the class to which he belongs is regarded with great interest, as being calculated to make a material improvement in the character of the stock.



View of the Oneida Conference Seminary, at Cazenovia, N. Y.

ONEIDA CONFERENCE SEMINARY.

We are indebted for the view of this seminary to Mr. William Dwinell; and the following account, like all the information in the American Magazine respecting literary institutions, comes from a source which entitles it to the entire confidence of our readers.

This seminary is situated in the central part of New York, in the village of Cazenovia, in Madison county. The facilities for public conveyance, the salubrious climate, the beautiful and picturesque scenery, the fertility and high state of cultivation of the soil, the absence of most of the temptations which are presented in more populous towns, the intelligence and refinement of society generally, and particularly the high moral and religious principle which characterize this section of the country—all conspire to render its location the most favorable for an institution designed to guard the morals, to inculcate the fundamental principles of vital piety, and to prepare the rising generation for future usefulness. This seminary was incorporated in 1825, for the education of youth of both sexes, since which time it has been gradually rising in popularity, and extending its usefulness. And though literary institutions have multiplied around almost indefinitely since its establishment, yet for some years the number in regular attendance here has seldom been less than 200, and frequently it has far exceeded it. This, if not the first, is one of the earliest institutions in our country designed to hold an intermediate rank between common academies and collegiate institutions. To the projectors, founders, and patrons of this institution is the community indebted for many efficient, practical scholars, not only in this, but also in several other States, and in the Canadas. The course of studies pursued here is designed not only to prepare students for the higher seminaries, but also for the studies requisite for the sacred desk, or the bar, or any of the active duties of life. Although it does not aspire to the dignity of a college, yet the course of instruction embraces most of the studies pursued at such an institution, including, besides all the common English branches, the Hebrew, Greek, Latin, German, French, Spanish, and Italian languages; mental, moral, and natural sciences; mathematics, pure and mixed; belles-lettres, painting, drawing, and music.

The duties of instruction are divided between the Principal, three Professors, and an English teacher, the Preceptress, and Teacher of music. The endowments of the institution are not large, but very respectable. It has a library of many valuable works, which is enlarged from time to time by donations, contributions, and appropriations; a cabinet of minerals, constantly increasing; and a philosophical and chemical apparatus sufficiently extensive to illustrate most of the principles of these useful branches of science, to which also valuable additions are frequently made. The building on the right is divided into recitation, society, and reading rooms; library and chapel. The central building is occupied by the gentlemen students; and the one on the left by the ladies. The female students are under the special care of

the preceptress, by whom they are instructed in the ornamental branches; but they recite to the professors in all of the mental and moral studies, and in the natural and exact sciences, and, for the most part, in the languages; thus enjoying an equal opportunity with the gentlemen for acquiring a knowledge of the solid branches. And facts thus far prove, if further proof need be added to the numerous evidences presented in every department of literature and science, that the female mind is adequate to the acquirement of the most abstruse sciences, that it is as susceptible of intense application, of as deep research, and of as nice and philosophical discrimination of thought, as that of the other sex; and that whatever of difference may be perceptible, is attributable, not to nature, but to habit and to early and defective education.

This seminary is under the direction of the Methodist Episcopal Church; but, whilst the morals of the students are strictly guarded, and unceasing efforts are made to inculcate the general principles of vital piety, nothing of a sectarian or proselyting spirit is in the least tolerated.

ICELAND.

Iceland, with the exception of Great Britain, is the largest island in Europe. It is situated between sixty-three degrees twenty-four minutes and sixty-six degrees thirty-three minutes, north latitude, and between thirteen degrees twenty-eight minutes and twenty-four degrees thirty-one minutes, west longitude. The opinion that this island owes its formation to the operation of submarine volcanoes is not only confirmed by analogical reasonings, deduced from the appearances presented by other islands which are confessedly of volcanic origin, but gains ground in proportion to the progress of a closer and more accurate investigation of the geological phenomena which every part of it exhibits to the view of the naturalist. In no quarter of the globe do we find crowded within the same extent of surface such a number of burning mountains, so many boiling springs, or such immense tracts of lava, as here arrest the attention of the traveller. The general aspect of the country is the most rugged and dreary imaginable. On every side appear marks of confusion and devastation, or the tremendous sources of these evils in the yawning craters of huge and menacing volcanoes. Nor is the mind of the spectator relieved from the disagreeable emotions arising from the reflection on the subterranean fires which are raging beneath him, by a temporary survey of the huge mountains of perpetual ice by which he is surrounded. These very masses, which exclude the most distant idea of heat, contain in their bosom the fuel of conflagration, and are frequently seen to emit smoke and flames, and pour down upon the plains immense floods of boiling mud and water, or red-hot torrents of devouring lava. The capital of the island is named Reikiavik, or *the smoking village*; so called, no doubt, from a hot spring in its vicinity, which continually sends out steam or smoke.

The population of Iceland is about fifty-three thousand. This is but a scanty population for so extensive an island, whose surface is considerably larger than that of Ireland. But that surface, from its nature, and the nature of the climate, is perhaps as unfavorable as any that exists within the limits of the two arctic circles. One third part, at the very least, is wholly useless to the inhabitants. The centre of the island, being nothing but clusters of yokuls, or snowy mountains, is said to be fully equal to that extent; so that the inhabited part cannot be reckoned at more than twenty-five thousand square miles; and the population on each square mile will not exceed $2\frac{1}{5}$ persons. This fact alone will suffice to show to what inconveniences the inhabitants must be subject in such a country where there are no roads, and over which it is utterly impracticable to attempt to stir in the winter months while the snow is on the ground.

Iceland is an appendage to the kingdom of Denmark. The principal officers of the government are a governor, a lieutenant governor, and a chief justice, together with some inferior magistrates. The chief justice holds a criminal court at Reikiavik; but the office is nearly a sinecure, not more than six or eight cases, civil and criminal, coming before the court in the course of a year. Crimes are rare; small thefts, especially of sheep, are the most frequent. The whip is the only punishment applied there, except fines. Those who are punished with hard labor are sent to Copenhagen. Education is almost entirely domestic; every head of a family teaches his children to read and write, and the precepts of religion according to the religious books prescribed by law. Authority is given to the clergy, by law, not to marry a woman, unless she can read and write; and the consequence is, that the peasantry of Iceland are better informed than those of almost any other country in Europe.

The whole population is employed in feeding cattle or fishing, or both. The number of those who breed cattle to those who mostly live by fishing is nearly as three to one. There are no manufactures of any kind carried on as a trade. Every branch of industry is domestic, and confined chiefly to articles of clothing, coarse cloth, gloves, mittens, and stockings. The peasantry are generally ingenious. They make such pieces of furniture as their simple cottages require. Some aspire to make trinkets of silver, snuff-boxes, and some other articles of the walrus's tusks. As a body, however, the Icelanders are strictly a pastoral and fishing people.

The number of sheep on the island is estimated at about 500,000; heads of cattle from 36,000 to 40,000; horses from 50,000 to 60,000. There being no wheel-carriages of any description on the island, there are no draught cattle; the horses are the beasts of burden. The Icelanders depend on their cattle and sheep for food and clothing; their horses may be regarded more in the light of a luxury, but an indispensable one, as without them they would not have the means of carrying their produce to barter in exchange for other articles of necessity or convenience, at the fishing villages or

ports at which the annual supplies arrive from Copenhagen. In the preservation of their sheep the peasantry are much hampered by the badness of the climate, by the scantiness of winter food, and by the attacks of the eagles, the ravens, and the foxes, more particularly at the lambing season, when vast numbers of the young animals are carried off by all of them. But the foxes are the most destructive. They are the curse of the country, and with all the pains taken to destroy them, and the rewards placed on their heads, they are supposed to be on the increase. The Icelanders say that a king of Norway sent them there out of revenge for so many of his subjects having gone over to settle on the island. Many ridiculous stories are told of the cunning tricks of the fox, some of which are detailed by Henderson at third or fourth hand. One is that when he wishes to feast on a gull, he walks backward towards a flock of them with his tail cocked up in the air, by which, being white, the birds think it one of themselves, and he thus takes such one of the flock as suits him. A gull is proverbially a stupid animal, and a fox a cunning one; but neither the cunning of the one, nor the stupidity of the other will make his readers credulous enough to believe such idle stories.

Under the roof of the cathedral at Reikiavik is the public library, said to contain about 6000 volumes, to which the inhabitants have free access, being allowed, under certain restrictions, to have books at their own houses; and it is said that the residents are generally very fond of reading. The books consist mostly of general and ecclesiastical history in the northern languages, German, Swedish, Danish, and Norwegian; such as relate to Iceland, their Sagas and their Eddas. It contains also a few English books, generally the writings of the best English poets, and also a collection of the Greek and Latin classics; besides some manuscripts, chiefly theological, the production of the clergy of the island. The Icelanders were once deservedly famed for their literary productions; and it is pleasing to find that they still keep alive the spirit of research and those literary pursuits for which their ancestors were distinguished.

At Bessestad is a public or collegiate school, intended chiefly for the education of young men destined for the church. The number of scholars is about forty. There are three masters; one, Professor of Theology, instructs the pupils in Hebrew and Greek, as far as the Greek Testament and Xenophon; the second is the lecturer, and instructs the pupils in the Latin language, in history, and mathematics; and the third, in the Danish, Norwegian, German, and Icelandic languages. They are all but poorly paid; that is to say, according to our ideas of the nature of their situation and the value of money; but this is not by any means a fair criterion of judging. The attendance is constant from October to May, the intermediate months being the time of vacation, when the students go to their several homes. The funds appropriated for the school are said to be sufficient to pay the teachers, and to afford board, books, and clothing to the scholars gratis. The clergy are not taken exclusively from this school. The sons of clergymen and of the peasantry are frequently educated at home, and all who can pass the requisite examination before the bishop are equally eligible for the church. One thing is certain: not only the clergy of Iceland, but numbers of the peasantry, are well versed in the classics, particularly in Latin, which they write with fluency.

In the year 1821, there died, in this island, a man who presented in his own person a signal example of the triumph of literary pursuits over pinching penury. He was a clergyman of the name of Jonas Thorlakson, the parish priest of Backa. This venerable pastor, when nearly seventy years of age, had just completed a translation of Milton's Paradise Lost into his native tongue, having previously translated Pope's Essay on Man. The first three books only of the Paradise Lost were printed by the Icelandic Literary Society, when it was dissolved in 1796. To print the rest at his own expense was altogether out of the question, as his annual salary was but six pounds sterling. At length his name and labors becoming known to that liberal and highly beneficent society in England, known as the *Literary Fund*, the case was immediately taken up, and they at once resolved, to use their own words, 'to give transient affluence to the bard, who shivered near the arctic circle, and, under the hovel of poverty, had erected with the magic of his mind a temple to the sacred muse.' Their contribution was thirty pounds, equal to five years' income of his miserable pittance. He wrote a letter in very elegant Latin, expressing his heartfelt gratitude for the kindness and generosity of the society, so accordant with the character of the British nation, and accompanied it with a manuscript copy of his translation of Milton; but the letter is not now to be found, having been taken away probably by one of the members who particularly interested himself in the case, and who is since dead.

Among the other remarkable things in Iceland of which we should like to speak more at length, did our limits permit, we may mention the mountains, Hecla and Snæfell Yokul, the former 4300, the latter 4567 feet in height; also the Geysers or boiling springs, some of which throw up a column of hot water to the height of nearly one hundred feet.

Accompanying this article, we present our readers with an engraving of one of the remarkable basaltic caves found at Stappen. The roofs of these caverns, five or six in succession, are supported by columns of basalt, many of which are also found strewed about, some lying horizontally in heaps with their bases pointed to the sea, some standing upright, and others inclined at different angles, many of them curved, not merely at the joints where the convex end of one piece is fitted into the concave end of the other, but bent throughout the whole length, like some of those on the island of Staffa, which Sir Joseph Banks has described as very much resembling the ribs of a ship. The columns of Stappen afford the most convincing proof of their igneous origin, being here found buried in the midst of lava, above, be-

View of a Basaltic Cave at Stappen, Iceland.

low, and around them. Here the theory of the Neptunists, who long maintained the aqueous origin of basalt, falls to the ground. 'All are now agreed,' says Mr. Lyell, 'that it would have been impossible for human ingenuity to invent one more distant from the truth.'

I am not aware that it has ever been noticed by geologists, that basaltic rocks and basaltic pillars, commencing first at Fairhead and the Giants' Causeway, the most splendid examples that perhaps exist, continue to make their appearance in various places as we advance to the northward, on or near to the same meridian line, passing through the western islands of Scotland, exhibiting a magnificent display on the island of Staffa, and from thence showing themselves in more or less perfection and beauty along the Hebrides, and as far as the Feroe islands. Advancing still farther, with a little inclination to the westward, they are found in profusion in almost every part of Iceland, intermingled with every species of volcanic production, the whole of this immense island evidently owing its existence to the agency of subterranean fire. Nor does the basaltic formation cease at Iceland, but, continuing northerly with a small inclination to the eastward, it breaks out again on the small island of Jan Meyen, which is also wholly of volcanic origin, consisting chiefly of the mountain of Beerenberg, 6870 feet high; and on the sides of which are two craters, one of them, as stated by Mr. Scoresby, being six or seven hundred yards in diameter; and the belt between the mountain and the sea is composed of cinders, slags, scoriæ, and trap rocks, striking through black sand and vesicular basalt, the last of which, high up on the side of the mountain, exhibits columnar masses.

Here, then, we have the plain and undeniable evidence of subterranean or submarine fire, exerting its influence under the sea, almost in a direct line, to the extent of 16½ degrees of latitude, or more than 1100 statute miles. If we are to suppose that one and the same efficient cause has been exerted in heaving up this extended line of igneous formations from Fairhead to Jan Meyen, we may form some vague notion how deep-seated the fiery focus must be to impart its force, perhaps through numerous apertures, in a line of so great an extent, and nearly in the same direction. It may probably be considered the more remarkable, that no indication whatever is found of volcanic fire on the coast-line of Old Greenland, close to the westward of the last-mentioned island and also to Iceland, nor on that of Norway on the opposite side, nor on that of Spitzbergen; on these places all is granite, porphyry, gneiss, mica-slate, clay-slate, lime, marble, and sandstone.

We have compiled the foregoing account mainly from Barrow's visit to Iceland in the summer of 1834, a work replete with interesting information, and to which we would refer such of our readers as wish to obtain more knowledge respecting this remarkable island.

MATHEMATICAL SOLUTIONS.

The following answers have been received in reply to the mathematical questions on page 227 of the present volume of this work.

First Question. For the investigation of the rule in this case, let r be the length of the radius of the base of the cones, y the height, $a+r$ the distance of their centres, b the side, and x the diagonal line required, joining the apex of one of the cones with the nearest point in the base of the other. Then the distance of the nearest points in the bases will be equal to $a-r$, and by 47th Euc., $x^2=a^2+y^2$, and $b^2=r^2+y^2$, or $b^2-r^2=y^2$. Hence $x^2=b^2+a^2-r^2=b^2+(a+r)\times(a-r)$ and $x=(b^2+(a+r)\times(a-r))^{\frac{1}{2}}$, and in the case supposed, $x=(15^2+20\times10)^{\frac{1}{2}}=425^{\frac{1}{2}}=20.615+$. It is *believed* that no easier method can be proposed, but this cannot be demonstrated.

The principle of this case is a very important and useful extension of that of the 47th of Euclid, being applicable to all cases of four-sided figures having two sides parallel, and the angles adjacent to each of those sides equal; for in all such cases

we have the following rule for finding the diagonal: *Multiply the parallel sides together, add the square of one of the other sides, and extract the square root of the sum.*

Second Question. *First Solution.* Let b and c be any assignable numbers whatever, and let $2b^2+c^2=n$; then $\frac{(4b^4+4b^2c^2+c^4)\,a^2}{n^2}=a^2$. This may be divided into three squares, $\frac{4b^4a^2}{n^2}$, $\frac{4b^2c^2a^2}{n^2}$, $\frac{c^4a^2}{n^2}$, which are all rational, and are expressed analytically in terms (letters,) to which, singly, any value whatever may be assigned, without transcending the limits of the equation.

Second Solution. Let $\frac{m^2+n^2}{p}=1$; and then $\frac{m^8+4m^6n^2+6m^4n^4+4m^2n^6+n^8)\,a^2}{p^4}=a^2$. The first member of this equation may be divided into the three squares $\frac{(m^8-2m^4n^4+n^8)\,a^2}{p^4}$, $\frac{(4m^6n^2-8m^4n^4+4m^2n^6)\,a^2}{p^4}$, and $\frac{(16m^4n^4a^2)}{p^4}$, which answer the conditions of the question.

D. Gould.

Boston, June 7, 1837.

Correct answers to the first question have also been received from Hezekiah Prince, Thomaston, Me., and from R. S. Harlan, Baltimore, making, however, the height of the cones one element in the calculation, which is unnecessary.

Mr. Prince has also given a solution of the second question in the case when $a^2=9$, which may be divided in three squares, namely, 4, 4, and 1. This solution fails only in a want of generality.

Calvinistic Church in Cape Town, South Africa.

CAPE TOWN, IN SOUTH AFRICA.

The cut we have given above is said to be a fair specimen of the architecture of Cape Town, in the English colony at the Cape of Good Hope. We have copied it from the Travels of George Thompson, Esquire, to which we have formerly had occasion to allude. In the same volume are contained cuts of the seats of some private gentlemen, the country residence of the governor, and some of the other public buildings. An observatory, we understand, has since been erected, which forms a splendid addition to the architecture of the Cape.

Cape Town, and the colony of which it is the capital, are important to Great Britain as an outwork of her Eastern possessions, and bid fair, moreover, if we mistake not, to increase greatly in commercial importance. The population of the town, according to the official census of 1824, was 18,668. In this census, however, it is understood that the English settlers who had then recently arrived, were not included. The entire population, at the present time, is estimated at upwards of 20,000. Of these, more than 7000 are slaves.

Of the state of society, the following account is given by an intelligent gentleman who has resided eight years at the Cape, and is well qualified to speak on the subject.

Few ranks in society would gain much increase in happiness by a removal from the Cape, if a salubrious climate, and an easy acquisition of all the necessaries and many of the conveniences and luxuries of life may be supposed to promote this end; and in respect to society, this colony is fortunate above most others in possessing a variety suited to all classes. The gentleman, whether sportsman, scholar, or man of pleasure, may here pass his time with congenial associates. Though it would be absurd to compare the society of Cape Town with that of an European metropolis for extent and variety, it is not too much to state, that there are few men, either of rank or talent so ex-

alted as not to find there appropriate companions in the principal official persons of the colony (many of them relations and connexions of families of rank in England), and in the officers of his majesty's military and naval services, and the visitors from India, who form, in every point of view, so valuable an addition to the population of the colony.

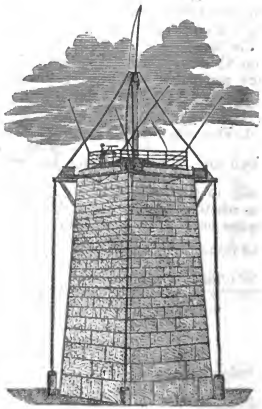
Of female society, I do not profess to be a critic, and my testimony to its merits would be of small value indeed. In any points, however, where it falls short of perfection, the fault cannot be attributed to a want of the brightest example in the highest and most influential quarter; and they must have little experience in the world, who do not know how to estimate this benefit at its full worth.

The working bees of the hive, whether merchants, agriculturists, tradesmen, or mechanics, much less pressed by the severity or duration of their labors, than those of the same classes in England, pass their leisure hours either in their family circle, or in company adapted to their respective habits, not the less happily, perhaps, that it becomes less refined in proportion to their gradual descent in the scale of society.

BUNKER HILL MONUMENT.

The cut before the reader gives an exact representation of the south view of the monument in the unfinished state in which it has long remained. In order to see how much it lacks of completeness, he is directed to page 183 of the first volume of this Magazine. When he knows that the design of the architect who planned the monument contemplated that its height should be two hundred and twenty feet, he may perhaps, when he sees the representation of its present condition, wonder why so little of the original plan has, as yet, been completed.

It surely is not want of money merely which has retarded this patriotic work, or want of patriotism; for many objects worthy of public spirit have been accomplished at great pains and cost, in our community, since the laying of the corner-stone, in 1825. But we are often told that there is one consideration which probably has been too little regarded, which has damped the ardor of the first movers in this undertaking; and that it is worthy of general attention. It ought to be remembered, that Bunker's Hill is a spot in which not only Massachusetts, but also the whole Union is interested. It is the spot, not where the liberty of New England alone, but of the whole country, took its rise. And those who proposed to mark the scene of our struggle for freedom, suitably to the place and occurrence they would commemorate, naturally looked for sympathy and assistance from the whole country. They have not looked in vain, it is true; but, still, not finding that aid from heart and hand which they, whether reasonably or unreasonably, expected, the consequence is, that their own interest in the matter has been diminished. Now if from all quarters of our common



country, a voice could come up proffering help to raise this as a monument of common gratitude to the defenders of those rights, which we now universally enjoy, it would rise, at once, to the very heavens. Were it to commemorate an event of mere local interest, the personal pride of the inhabitants of Massachusetts might long since have been roused sufficiently to complete it. But since it concerns the United States, as a body, should not all American citizens do their part to accomplish this purpose? Let it not be a mark of local pride, or petty feeling; but rather let it never rise higher than we now see it, till the gratitude and patriotism of the *whole country* ask and aid its completion.

But it is asked, 'Is not this monument a benefit to a portion alone of the United States?' We answer, *No.* It is for the whole country, and therefore all Americans should do something towards erecting it. To an inhabitant of Massachusetts, Bunker's Hill is not a place that need be marked out. We would raise it for the good of those who are far from the celebrated place as well as for those who are near. We would have it as a beacon, which they can discern afar off, so that, long before they can stand on the blood-stained spot, they can say, 'There is Bunker's Hill,' and can be guided by its lofty invitation, without need of inquiring of others, to the altar on which their happiness as freemen tells them to offer up the purest sentiments of patriotic gratitude. W.

Circulating Libraries, now so general and so useful, are of no longer standing than eighty or ninety years. The first was commenced by one Wright, a bookseller, about the year 1740. The number in Great Britain was, in 1800, not less than one thousand.

New Zealand Hut and Fence of Garden.

NEW ZEALANDERS.

The accompanying cut represents the largest hut in one of the New Zealand villages. The walls are formed of large twigs covered with rushes, and the hut thatched with the same. The house of a chief, as in this case, is generally the largest in the village; but every village has, in addition to the dwelling-houses of which it consists, a public storehouse or repository for the common stock of sweet potatoes of the people, which is a still larger building than that of the chief. One which Captain Cruise describes was erected upon several posts driven into the ground, which were floored over with deals at the height of about four feet, as a foundation. Both the sides and the roof were compactly formed of stakes intertwisted with grass; and a sliding doorway, scarcely large enough to admit a man, formed the entrance. The roof projected over this, and was ornamented with pieces of plank painted red, and having a variety of grotesque figures carved on them. The whole building was about twenty feet long, eight feet wide, and five feet high. The residences of the chiefs are built upon the ground, and have generally the floor, and a small space in front, neatly paved; but they are so low, that a man can stand upright in very few of them. The aperture which is closed by means of a sliding door, is so much lower even than the roof, that it is necessary to crawl upon the hands and knees to get through it. Mr. Marsden spent a night in the house of a chief, the entrance to which was of such narrow dimensions that he could not, he says, creep in, without taking his coat off. The apartment was fourteen feet by ten, with a fire on the centre of the floor, which made the place as hot as an oven, there being no vent for the smoke, except through the hole which served for a door. The New Zealanders seemed to enjoy the heat, though they finally consented that the door should remain open during the night.

The huts of the common people are very wretched, still, those in the northern part of the country generally have well-cultivated little gardens attached to them, which are stocked with turnips and sweet and common potatoes. It is said that the only articles of furniture ever found in these huts, are fishing-hooks, nets, and lines, calabashes containing water, a few tools made of stone, and several cloaks and other garments suspended from the walls. Amongst the tools, one resembling the adze is in most common use; and it is remarkable that the handles of these implements are often made of human bones.

When Rutherford arrived at the house of which we have given a representation above, a pig was killed for him and his comrade, and cooked with some coomeras from which he supped, and afterwards seating themselves around the fire, they amused themselves by listening to several of the women singing. In the mean time a slave girl was killed and put into a hole in the earth by the New Zealanders, to roast, in order to furnish a feast the following day, in honor of the return of Aimy, their chief. They slept that night in the chief's house; but the next morning a number of the natives were set to work to build one for them

of the same form with that in which the chief lived, and of nearly the same size. In the course of this day, many other chiefs arrived at the village, accompanied by their families and slaves, to welcome Aimy home, which they did in the usual manner. Some of them brought with them a quantity of water-melons, which they gave to him and his comrade. At last they all seated themselves upon the ground to have their feast,—several large pigs, together with some scores of baskets of potatoes, tara, and water-melons, having first been brought forward by Aimy's people. The pigs, after being drowned in the river and dressed, had been laid to roast beside the potatoes. When these were eaten, the fire that had been made the night before was opened, and the body of the slave girl taken out of it, which they next proceeded to feast upon in the eagerest manner. Rutherford and his companion were not asked to partake of it, for Aimy knew that they had refused to eat human flesh before. After the feast was over, the fragments were collected, and carried home by the slaves of the different chiefs, according to the custom which is always observed on such occasions in New Zealand.

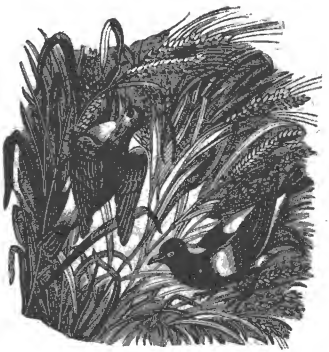
The house that had been ordered to be built for Rutherford and his companion was ready in about a week; and having taken up their abode in it, they were permitted to live, as far as circumstances would allow, according to their own customs. Rutherford remained some time among the people, was married, and finally succeeded in effecting his escape, and returned to Europe.

Such are the statements made by different writers respecting these interesting people, their habits, and mode of life, for which we are chiefly indebted to a detailed account in one of the volumes of the Library of Entertaining Knowledge. Their superstitions, the probability of their origin, and the various statements connected with their history, afford a rational amusement to the philosopher, the philologist, and the man of science: and it is to be hoped that the information which is constantly obtained respecting them, will throw additional light upon the history of the human race. An extensive field for inquiry is opened, and it is very desirable in this case, as in all of similar kind, that the inquiry should be pursued by those, whose situation and talents enable them to do it, with a zeal proportionate to the importance of the subject.

THE PLAY-THINGS.

Oh! Mother, here's the very top,
  That brother used to spin;
The vase with seeds I've seen him drop
  To call our robin in;
The line that held his pretty kite,
  His bow, his cup and ball,
The slate on which he learnt to write,
  His feather, cap and all.

My dear, I'd put the things away,
  Just where they were before;
Go, Anna, take him out to play,
  And shut the closet door.
Sweet innocent! he little thinks
  The slightest thought expressed
Of him that's lost, how deep it sinks
  Within a mother's breast! MISS GOULD.



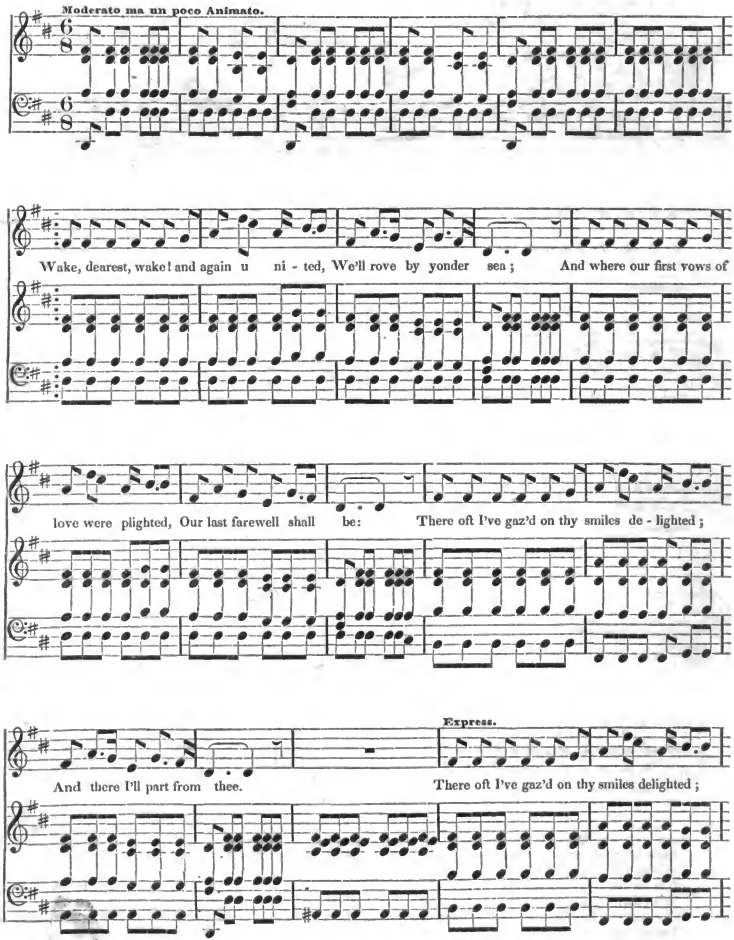
THE RICE-BIRD.

The cultivators of rice in America sometimes suffer severely from the depredations of the *rice-bird* of Catesby (*Emberiza oryzivora*), known familiarly in the country by the name of Bob Lincoln. This bird is about six or seven inches long; its head and the under part of its body are black, the upper part is a mixture of black, white, and yellow, and the legs are red. The accompanying cut represents both the male and female. Immense flocks of these birds are seen in the island of Cuba, where the rice crop precedes that of Carolina; but when from the hardening of the grain the rice in that quarter is no longer agreeable to them, they migrate towards the north, and pass over the sea in such numerous parties, as to be sometimes heard in their flights by sailors frequenting that course. These birds appear in Carolina while the rice is yet milky. Their attacks upon the grain while in this state are so destructive as to bring considerable loss upon the farmers. The birds arrive in the United States very lean, but thrive so well upon their favorite diet, that during the three weeks to which their visit is usually limited, they become excessively fat, so as to fly with difficulty, and when shot to be burst with the fall. So soon as the rice begins to harden here, they retire to other parts, remaining in one place only so long as the rice continues green. When this food entirely fails, they have recourse for their subsistence to insects, until the maize begins to form its grains, and then the milky substance which these contain is devoured with the same avidity that marks their attacks upon the rice-plant. Extensive flocks of the oryzivora are found during the spring and summer in New York and Rhode Island; there they breed, quitting with their young for the southward, in time for the tender rice-grains of Cuba. It is remarkable that the males and females do not migrate in company, the females being always the first to perform their voyages. These birds are eaten as a great delicacy; and the song of the male is said to be melodious.—*Lib. of Ent. Knowledge.*

Isabel,

A CELEBRATED SPANISH SERENADE.

With Symphonies and Accompaniments for the Piano Forte.



And there I'll part from thee, Is - a - bel! Is - a - bel! Is - a - bel! One look, though that look is in

sorrow; Fare thee well, Fare thee well, Fare thee well! Far hence I shall wander to-morrow: Ah

me! Ah me!

Dim.

last time.

2

Dark is my doom, and from thee I sever,
Whom I have lov'd alone;
'Twere cruel to link thy fate forever
With sorrows like my own;
Go smile on livelier friends, and never
Lament me when I'm gone.

3.

And when at length in these lovely bowers,
Some happier youth you see;
And you cull for him spring's sweetest flowers,
And he sings of love to thee;
When you laugh with him at these vanish'd hours,
Oh! tell him to love like me.

VIEW OF LAFAYETTE'S SEAT AT LAGRANGE.

LAGRANGE AND LAFAYETTE.

The cut on the preceding page represents the southwestern view of Lafayette's seat at Lagrange. It is situated about thirteen leagues east of Paris, near Rosay en Brie, and nearly half way from Melun to Meaux. The distinguished physician, who long enjoyed the confidence of Lafayette, and who has published a minute account of the incidents of his life and of the interesting objects at Lagrange, says the farm and château touch one another and are situated in the centre of the grounds that surround them, and form an almost perfect circle of more than eight hundred French acres. The roads leading to Lagrange cross the property, and are well planted and carefully kept in order. The entrance into the park is through a wide and handsome avenue, slightly curved, and bordered with young and sturdy apple trees, the branches of which incline towards the traveller, and seem to offer him the flowers or fruit with which they are loaded. The avenue turns to the left, passing along the farm, and an old chapel, which at present forms a part of it; and then crosses a small plantation of chestnut trees; and, soon afterward shaded by beauteous green trees, which impart to it a sombre and mysterious aspect, conducts to the extreme of the château. A stone bridge, with parapets, has replaced the drawbridge which formerly crossed the moat. The principal entrance, which is not represented in the accompanying cut, is by a large door, composed of two arches; the one exterior and larger than the other, having on the sides two deep excavations, which received a portion of the wood work, and the chains of the old bridge; the other, which is on the inside and elliptical, forms the real door.

From the court of the château, there is a level entrance into the park, which contains seventy-two French acres of natural meadow, about as many of wood, and a few acres of vineyard. It surrounds a portion of the buildings of the farm. The alleys, which are in some places winding, in others straight, and which cross the park; the foot paths, which intersect it in every direction; the groves, as well as the wooded part of the property, which is called *La Garenne*, and in which are to be found one of the ponds and two springs which supply the château with water, were laid out by the general, aided by the advice of his friend Robert, the landscape-painter.

The aspect of the place is delightful, especially on walking at some distance from the front of the château, before sunrise. In the distance, the building, enveloped in mist, seems at first confounded with the dark masses of the surrounding trees; but as daylight appears, the immense carpet of verdure which separates the spectator from the château, becomes colored and enamelled with flowers; the towers begin to stand out, and seem to rise from amid the trees by which they are surrounded; the foliage of which, soon after lighted by the sun's first rays, forms an agreeable contrast with the grayish tint of the old walls. This calm and imposing scene receives a degree of animation from the warbling of birds, the sounds of human labor, and the joyous songs of workmen about the farm; the bleating of the sheep which issue from their folds; and the lowing of the cows, as they quit their stalls, not less than thirty or forty of which are kept on the farm.

Here Lafayette spent his time, during the latter part of his life (when not engaged in public affairs), and here he was visited by almost every American who went to France. The guest of the American nation became their host. Every respectable person was sure of a welcome reception.

Lafayette's kindness was such to his domestics and dependents as to secure their unbounded confidence and affection. The animals on his farm were not forgotten by him. Early in the morning he inspected the labors of the farm from one of the windows of his library, which commanded a view of its buildings and courts. He saw the forage distributed to the cattle. He liked to see them well fed and well treated. As he was once about returning to Paris, the farmer came to him and repeated his assurances that he might make his mind easy about the animals; that he would take care, in his master's absence, to wash and rub them frequently. 'Rub them well inside,' said the general, 'if you wish to fatten them, and give them a healthy skin.' When he was making his tour through America, he was constantly sending instructions to his farmer respecting improvements, so that, on his return to Lagrange, he found changes which he had projected on the other side of the Atlantic ocean.

To the inhabitants of his canton, Lafayette's beneficence was unbounded. Two hundred pounds of bread, baked at the farm expressly for the support of the poor, were distributed to them every Monday at the château, and in times of scarcity the weekly distribution was increased to six hundred pounds. The bread thus given was of the same quality as that eaten at Lafayette's table; and at the seasons last mentioned, each individual received a mess of soup and a *sol* in addition to his portion.

The change which must be experienced in the feelings of those who revisit Lagrange since the death of Lafayette may be well told in the words of the physician from whose *Recollections* we have freely drawn in what precedes. As the visiter approaches the spot which its late master preferred to all others, his heart becomes saddened. The ivy planted by the celebrated Fox, during his stay at Lagrange, with General Fitzpatric, after the peace of Amiens, appears now, with its sombre foliage, like a funeral veil spread over the château. At every step, some mournful recollection is presented. The apartments of the general are closed, and the mourning kept up by the members of the family and by the household is in harmony with the sadness which prevails about the place, not long since embellished and animated by the presence of its late lamented proprietor. His tomb, which, like that of his friends Washington and Franklin, is unostentatious, is daily visited by many who honor his memory, by strangers who have known him, by ardent lovers of patriotism and liberty, and will be resorted to by generations to come.

From the North American Review.

SWEDEN.

Peasantry. Almost primeval simplicity reigns over this Northern land,—almost primeval solitude and stillness. You pass out from the gate of the city of Upsala, and, as if by magic, the scene changes to a wild, woodland landscape. Around you are forests of fir. Over head hang the long, fan-like branches, trailing with moss, and heavy with red and blue cones. Under foot is a carpet of yellow leaves; and the air is warm and balmy. On a wooden bridge you cross a little silver stream. Anon you come forth into a pleasant and sunny land of farms. Wooden fences divide the adjoining fields. Across the road are gates, which are opened for you by troops of flaxen-haired children. The peasants take off their hats as you pass. You sneeze, and they cry, God bless you. The houses in the villages and smaller cities are all built of hewn timber, and for the most part painted red. The floors of the taverns are strewn with the fragrant tips of fir-boughs. In many villages there are no taverns, and the peasants take turns in receiving travellers. The thrifty housewife shows you into the best chamber, the walls of which are hung round with rude pictures from the Bible; and brings you her heavy silver spoons,—an heir-loom,—wherewith to dip the curdled milk from the pan. You have oaten cakes baked some months before; or bread with aniseseed and coriander in it, and perhaps a little pine bark.* Meanwhile the sturdy husband has brought his horses from the plough, and harnessed them to your carriage. Solitary travellers come and go in uncouth one-horse chaises. Most of them have pipes in their mouths, and, hanging around their necks in front, a leathern wallet, wherein they carry tobacco, and the great bank-note of the country, as large as your two hands. You meet, also, groups of Dalekarlian peasant women, travelling homeward or city-ward in pursuit of work. They walk barefoot, carrying in their hands their shoes, which have high heels under the hollow of the foot, and the soles of birch bark.

Village Churches and Churchyards. Frequent, too, are the village churches, standing by the road-side, each in its own little garden of Gethsemane. In the parish register great events are doubtless recorded. Some old king was christened or buried in that church; and a little sexton, with a great rusty key, shows you the baptismal font, or the coffin. In the churchyard are a few flowers, and much green grass; and daily the shadow of the church spire, with its long tapering finger, counts the tombs, thus representing an index of human life, on which the hours and minutes are the graves of men. The stones are flat, and large, and low, and perhaps sunken, like the roofs of old houses. On some are armorial bearings; on others only the initials of the poor tenants, with a date, as on the roofs of Dutch cottages. They all sleep with their heads to the Westward. Each held a lighted taper in his hand when he died; and in his coffin were placed his little heart-treasures, and a piece of money for his last journey. Babes that came lifeless into the world were carried in the arms of gray-haired old men to the only cradle they ever slept in; and in the shroud of the dead mother were laid the little garments of the child, that lived and died in her bosom. And over this scene the village pastor looks from his window in the stillness of midnight, and says in his heart, How quietly they rest, all the departed! Near the churchyard gate stands a poor-box, fastened to a post by iron bands, and secured by a padlock, with a sloping wooden roof to keep off the rain. If it be Sunday, the peasants sit on the church steps and con their psalm-books. Others are coming down the road with their beloved pastor, who talks to them of holy things from beneath his broad-brimmed hat. He speaks of fields and harvests, and of the parable of the sower, that went forth to sow. He leads them to the good Shepherd, and to the pleasant pastures of the spirit-land. He is their patriarch, and, like Melchisedek, both priest and king, though he has no other throne than the church pulpit. The women carry psalm-books in their hands, wrapped in silk handkerchiefs, and listen devoutly to the good man's words. But the young men, like Gallio, care for none of these things. They are busy counting the plaits in the kirtles of the peasant girls, their number being an indication of the wearer's wealth. It may end in a wedding.

Weddings. We must describe a village wedding in Sweden. It shall be in summer time, that there may be flowers, and in a southern province, that the bride may be fair. The early song of the lark and of chanticleer are mingling in the clear morning air, and the sun, the heavenly bridegroom with golden locks, arises in the East, just as Olof Olofsson, our earthly bridegroom with yellow hair, arises in the South. In the yard there is a sound of voices and trampling of hoofs, and horses are led forth and saddled. The steed that is to bear the bridegroom has a bunch of flowers upon his forehead, and a garland of blue-bottles or cornflowers around his neck. Friends from the neighboring farms come riding in, their blue cloaks streaming to the wind; and finally the happy bridegroom, with a whip in his hand, and a monstrous *kryddqvaster*, or nosegay, in the breast of his black jacket, comes forth from his chamber; and then to horse and away, towards the village where the bride already sits and waits. Foremost rides the spokesman, (*Taleman*), followed by some half dozen village musicians, all blowing and drumming and fifing away like mad. Then comes the bridegroom between his two groomsmen, and then forty or fifty friends and wedding guests, half of them perhaps with pistols and guns in their hands. A kind of baggage-wagon brings up the rear, laden with meat and drink for these merry pilgrims. At

* Speaking of Dalekarlia a Swedish writer says; 'In the poorer parishes the inhabitants are forced, even in good years, to mingle some bark in their bread.' Of Elfilalen he says; 'The people are poor; without bark-bread they could not live the year out. The traveller, who visits these regions, and sees by the road-side long rows of young pines stripped of their bark, in answer to his question, wherefore this is so, hears, and truly not without emotion, his postillion's reply; 'To make bread for ourselves and for our children.'

the entrance of every village stands a triumphal arch, adorned with flowers and ribands and evergreens; and as they pass beneath it the wedding guests fire a brave salute, and the whole procession stops. And straight from every pocket flies a *lomflask* or black-jack, filled with punch or brandy. It is passed from hand to hand among the crowd; provisions are brought from the wagon of the sumpter horse, and after eating and drinking and loud hurrahs, the procession moves forward again, and at length draws near the house of the bride. Four heralds ride forward to announce, that a knight and his attendants are in the neighboring forest, and pray for hospitality. 'How many are you?' asks the bride's father. 'At least three hundred,' is the answer; and to this the host replies, 'Yes; were you seven times as many, you should all be welcome; and in token thereof receive this cup.' Whereupon each herald receives a can of ale, and soon after the whole jovial company comes storming into the farmer's yard, and, riding round the May-pole, which stands in the centre thereof, alights amid a grand salute and flourish of music. In the hall sits the bride, with a crown upon her head and a tear in her eye, like the Virgin Mary in old church paintings. She is dressed in a red boddice and kirtle, with loose linen sleeves. There is a gilded belt around her waist; and around her neck, strings of gilded beads, and a gilded chain. On the crown rests a wreath of wild roses, and below it another of cypress. Loose over her shoulders falls her flaxen hair; and her blue innocent eyes are fixed upon the ground. O thou good soul! thou hast hard hands, but a soft heart! Thou art poor. The very ornaments thou wearest are not thine. They have been hired for this great day. Yet art thou rich; rich in health, rich in hope, rich in thy first, young, fervent love. The blessing of heaven be upon thee! So thinks the parish priest, as he joins together the hands of bride and bridegroom, saying, in deep, solemn tones; 'I give thee in marriage this damsel, to be thy wedded wife in all honor, and to share the half of thy bed, thy lock and key, and every third penny which you two may possess, or may inherit, and all the rights, which Upland's laws provide, and the holy king Erik gave.' The dinner is now served up, and the bride sits between the bridegroom and the priest. The spokesman delivers an oration after the ancient custom of his fathers. He interlards it well with quotations from the Bible; and invites the Savior to be present at this marriage feast, as he was at the marriage feast in Cana of Galilee. The table is not sparingly set forth. Each makes a long arm, and the feast goes cheerly on. Punch and brandy are served up between the courses, and here and there a pipe smoked, while waiting for the next dish. There are likewise all kinds of cake and cheese; egg-cheese and toasted-cheese, and sweet-cheese and sour-cheese. They sit long at table; but, as all things must have an end, so must a Swedish dinner. Then the dance begins. It is led off by the bride and the priest, who perform a solemn minuet together. Not till after midnight comes the last dance (*den sista dansen*). The girls form a ring around the bride, to keep her from the hands of the married women, who endeavor to break through the magic circle, and seize their new sister. After long struggling they succeed; and the crown is taken from her head and the jewels from her neck, and her boddice is unlaced and her kirtle taken off; and like a vestal virgin clad all in white she goes, but it is to her marriage chamber, not to her grave; and the wedding guests follow her with lighted candles in their hands. And this is a village bridal.

Seasons. Nor must we forget the sudden changing seasons of the Northern clime. There is no long and lingering Spring; unfolding leaf and blossom one by one;—no long and lingering Autumn, pompous with many-colored leaves and the glow of Indian summers. But winter and summer are wonderful, and pass into each other. The quail has hardly ceased piping in the corn, when winter from the folds of trailing clouds sows broad-cast over the land snow, icicles, and rattling hail. The days wane apace. Ere long the sun hardly rises above the horizon, or does not rise at all. The moon and the stars shine through the day; only, at noon, they are pale and wan, and in the southern sky a red, fiery glow, as of sunset, burns along the horizon, and then goes out. And pleasantly under the silver moon, and under the silent, solemn stars, ring the steel-shoes of the skaters on the frozen sea, and voices and the sound of bells,

> 'Jingling in a whistling wind as clear,
> And eke as loud, as doth the chapel bell.'

And now the Northern Lights begin to burn, faintly at first, like sunbeams playing in the waters of the blue sea. Then a soft crimson glow tinges the heavens. There is a blush on the cheek of night. The colors come and go; and change from crimson to gold, from gold to crimson. The snow is stained with rosy light. Twofold from the zenith, east and west, flames a fiery sword; and a broad band passes athwart the heavens, like a summer sunset. Soft purple clouds come sailing over the sky, and through their vapory folds the winking stars shine white as silver. With such pomp as this is Merry Christmas ushered in, though only a single star heralded the first Christmas. And in memory of that day the Swedish peasants dance on straw; and the peasant girls throw straws at the timbered roof of the hall, and for every one that sticks in a crack shall a groom's-man come to their wedding. Merry Christmas indeed! For pious souls church-songs shall be sung, and sermons preached;

> 'And all the bells on earth shall ring,
> And all the angels in heaven shall sing
> On Christmas day in the morning.'

But for Swedish peasants, brandy and nut-brown ale in wooden bowls; and the great Yule-cake (*Julhögen*) crowned with a cheese, and garlanded with apples, and upholding a three-armed candlestick over the Christmas feast. *A gens de village, trompette de bois!* They may tell tales, too, of Jöns Lundsbracka, and Lunkenfus and the great Riddar Finke of Pingsdaga.*

* Titles of Swedish popular tales.

And now the glad, leafy mid-summer, full of blossoms and the song of nightingales, is come! Saint John has taken the flowers and festival of heathen Balder; and in every village there is a May-pole fifty feet high, with wreaths and roses and ribands streaming in the wind, and a noisy weathercock on top, to tell the village whence the wind cometh and whither it goeth. The sun does not set till ten o'clock at night; and the children are at play in the streets an hour later. The windows and doors are all open, and you may sit and read till midnight without a candle. O how beautiful is the summer night, which is not night, but a sunless yet unclouded day, descending upon earth with dews, and shadows, and refreshing coolness! How beautiful the long, mild twilight, which like a silver clasp unites to-day with yesterday! How beautiful the silent hour, when Morning and Evening thus sit together, hand in hand, beneath the starless sky of midnight! From the church-tower in the public square the bell tolls the hour, with a soft, musical chime; and the watchman, whose watch-tower is the belfry, blows a blast in his horn, for each stroke of the hammer, and four times, to the four corners of the heavens, in a sonorous voice thus chanteth he; 'Ho! watchman, ho! Twelve is the clock! God preserve our city from fire and brand and hostile hand! Twelve is the clock!' From his swallow's nest in the belfry he can see the sun all night long; and farther north the priest stands at his door in the warm midnight, and lights his pipe with a common burning-glass.

HOW TO CHOOSE A HUSBAND.

Girls—when you see a young man of modest, respectful, retiring manners, with unpretending, yet noble independence of mind, of amiable and pious disposition, not given to pride or vanity; such an one will make a good husband, for he will be the same to his wife after marriage, that he was before. When you see a young man who would take a wife for the value of herself, for her beauties of mind, purity of heart, and not for the dazzle of wealth; that man will make a good husband, for his affection will never lessen, and years will but serve to strengthen his attachment, and open new fountains in the heart, which shall murmur sweetly on the ocean of continual happiness.

Never make money an object of marriage; if you do, depend upon it, as a balance of that good, you will get a bad husband—one whose love and ambition will soon be irretrievably engrossed in reckless schemes of speculation, to the utter disregard and neglect of the kinder sympathies of nature, and more social enjoyments of life. When you see a young man who is tender and affectionate, and endowed with a happy intellect, no matter what his circumstances in life are, he is really worth the winning; take him, who can, girls, for he will make a good husband: if you do not improve such an occasion, you may live to learn and regret, that you have had but one such opportunity.

THE HAND.

How few there are who, on looking at a human hand, are aware of the complex character of its mechanism; of that mechanism to which its strength, mobility, and elasticity are owing! How few, even among the intelligent and well-informed, can tell even the number of bones which compose this beautiful contrivance! Let us take a Hand, strip it of its clothing, its skin, muscles, fat, blood-vessels, and nerves, and examine it in its state of nakedness. Before us is the frame-work of a Hand; the numbers, shape, and union of its parts the same precisely, whether we examine them in the white, delicate, and tapering hand of a female, or the rough, broad, and labor-hardened hand of man.

In the term *Hand* I include the whole structure from the extremity of the forearm to the tips of the fingers (the forearm being that part of the arm which is between the elbow and wrist). Its back part is convex or rounded for greater firmness, and strength; its fore part, of which we give a cut, is concave or hollowed for greater facility in grasping, and more convenience and security in holding objects. The Hand comprises twenty-seven bones, the study of which may be much facilitated by dividing them into three classes. First, Carpus (wrist). Second, Metacarpus (between the wrist and fingers—body of the hand). Third, Fingers.

1st. The Carpus (wrist) is one of the most complex portions of the skeleton. It will be sufficient to say, that it is composed of eight bones, seven of which may be seen in the cut, marked 4, bearing different names, from some real or imagined resemblance to certain figures or objects; thus one is called *Scaphoides* (boat-like), from some trifling resemblance to a boat; another *Magnum*, because it is the largest; another *Pisiforme* (pea-like), its size and shape giving an indistinct idea of a pea; and so with the remainder. These eight

bones are arranged in two rows, four in each row, one of which is jointed to the bones of the fore-arm, and the other to the body of the hand or the Metacarpus. These bones are very closely and strongly united together by ligaments or binders of prodigious strength, insomuch that it is almost an impossibility to dislocate or get them out of place. They are indeed so disposed as to form an arch of which the convexity is upward, and the concavity downward. In this concavity, which represents a groove, run the tendons (cords) of the muscles which bend the fingers, the nerves, and the bloodvessels. Each bone of this arch is united to its fellow by a distinct, movable joint; and the several separate joints are consolidated, by their ligaments, into one great joint. The consequence of this mechanism is, that some degree of motion is capable of taking place between the several bones, which separate motions multiplied together give to the two rows such an extent of motion, that when the wrist is bent, its arch forms a kind of knuckle. By this construction, a facility and ease of motion, and a power of accommodation to motion and force are obtained, which belong to no arch ever constructed by human ingenuity. Moreover, the spongy and cellular composition of these bones gives them another advantage. In case of falls, the shock, in passing through the wrist, is lost or very much deadened; its sponginess of structure not communicating motion with the same rapidity and force as a single solid bone would do.

2d. The Metacarpus is that portion of the hand to which we refer when we say the back and palm of the hand. For distinction we may call it the body of the hand. It is composed of four bones (marked 5 in the cut), arranged parallel to each other, and forming a sort of four-sided grate. These bones, as may be perceived by reference to the figure, are swollen at each extremity where they articulate, or joint with other bones. This increased breadth of surface renders them of course less liable to dislocation, an accident to be guarded against with the utmost care in a part exposed to such constant use as the hand. The ends which are articulated to the wrist are nearly plane surfaces; the ends towards the fingers are rounded heads which are received into corresponding cup-shaped cavities in the top of the first bone of the fingers. The bodies of the Metacarpal bones become smaller towards their middle, and thus form an interval, for the accommodation of certain small muscles called the *Interosseous* (between the bones) muscles, which, in conjunction with certain others denominated *Lumbricales* (worm-like), perform all the finer motions; opening, closing, and moving the fingers in every direction, with great quickness and delicacy. These are the organs which give to the hand the power of spinning, weaving, engraving, and of producing those quick movements requisite to execute rapid passages of instrumental music, &c. &c. These bones are convex on the back, and concave on the palm of the hand. From this arrangement two advantages arise; first, space is gained for muscles, tendons, fat, bloodvessels, &c., and by this means a bulkiness is avoided, which would have greatly diminished the symmetry and utility of the palm of the hand; secondly, its concave surface enables the palm of the hand to be more closely applied, and to embrace an object with a wider spread, and firmer grasp. The Metacarpal bones are bound firmly together by ligaments passing from the wrist bones to their heads, and so arranged as to limit the motions of the joints chiefly to flexion and extension, the motion from side to side being very small.

3d. The Fingers—This is the third and last division of the bones of the Hand. It comprises fifteen bones, numbered 6, 7, 8, in the cut, arranged in three rows, termed *Phalanges* (ranks, rows, from the Latin word *Phalanx*). Like the Metacarpal bones, the Phalanges are rounded on their backs, and flattened inwardly, and for the same reason,—convenience in grasping. The last row (as may be seen by the figure) is much smaller than the others, is flattened into a somewhat rounded and rough surface, on which rests the vascular, pulpy, and nervous substance constituting the special organ of touch, placed at the tips of the fingers, and protected at its upper surface by the nails. The upper extremities of the first row are hollowed, to receive the round heads of the Metacarpal bones; the inferior extremities are rounded, to be received into the cup-like cavities of the heads of the next row, and so on alternately, one head rounded, the other cupped. The joints are connected by lateral and cross ligaments as in the Metacarpals; and their situation and arrangement are such as to prevent any other motions than those of flexion and extension. The fingers have received different names. The first is called the *Pollex* (Thumb), because of its strength; the second, the *Index* or *Indicator* (the pointer), because it is always employed in pointing out objects; the third, the *Middle* finger; the fourth, the *Annular* (Ring-finger), this being the finger chosen to bear the marriage ring, from the imaginary idea that a nerve or bloodvessel leading from it was in more intimate communication with the heart than those from the other fingers; the fifth, the *Auricular* (Ear-finger), because it was the only finger small enough to be introduced into the ear, as it is frequently, for a great many foolish purposes. The thumb has some peculiarities. It is the antagonist, and possesses the strength of all the other fingers. On its length, strength, free lateral motion, and perfect mobility, depends the power of the human hand. Without it, the other fingers would be nearly useless; let any one try with what force or ease he can grasp the handles of many of the tools employed in the arts of industry, and he will soon be convinced of the indispensable aid of the thumb. Again; The thumb is a distinguishing characteristic of man. No animal, having a hand like man's, has a thumb so long. The thumb of the Chimpanzee, whose hand most resembles the human hand, does not reach beyond the bone marked 5 in the cut; whereas that of man reaches to the end of the bone marked 6. It has been said by some philosophers, that man is indebted for his superiority over other animals to his hand. This, however, is not the truth. The complete and beautiful mechanism of

the human hand is but in harmony with the rest of the frame of which it is a part, and an instrument and coöperator of that intellect which would have been imperfect without the fine and delicate expression of its capacities in the arts of painting, engraving, and spinning, or its mightier development in ship-building, the construction of roads, monuments, and palaces, where the hand bodies forth the imaginations of the mind.

G. H. L.

DEATH.

The idea of the intense suffering preceding dissolution is, and has been, so general, that the term *agony* has been applied to it in many languages. In its origin the word means nothing more than a violent contest or strife, but it has been extended so as to embrace the pangs of death, and any violent pain. The agony of death, however, physiologically speaking, instead of being a state of mental and corporeal turmoil and anguish, is one of insensibility. The hurried and labored breathing, the peculiar sound of respiration, and the turned-up eyeball, instead of being evidences of suffering, are now admitted to be signs of the brain having lost all, or almost all, sensibility to impressions. Whilst the brain is possessed of consciousness the eye is directed as the will commands, by the appropriate voluntary muscles of the organ; but as soon as consciousness is lost, and the will no longer acts, the eyeball is drawn up involuntarily under the upper eyelid. All the indications of mortal strife are such in appearance only; even the convulsive agitations, occasionally perceived, are of the nature of the epileptic spasms, which we know to be produced in total insensibility, and to afford no real evidence of corporeal suffering. An uneasy death—euthanasia—is what all desire; and, fortunately, whatever have been the previous pangs, the closing scene in most ailments is generally of this character. In the beautiful mythology of the ancients, Death was the daughter of Night, and the sister of Sleep. She was the only divinity to whom sacrifice was made, because it was felt that no human interference could arrest her arm; yet her approach was contemplated without any physical apprehension.

The representation of Death as a skeleton covered merely with skin, on the monument of Cannæ, was not the common allegorical picture of the period. It was generally depicted on tombs as a friendly genius, holding a wreath in his hand, with an inverted torch resting on his wreath; or as Love, with a melancholy air, his legs crossed, leaning on an inverted torch; the inverted torch being a beautiful emblem of the gradual self-extinguishment of the vital flame.

The disgusting representations of Death from the contents of the charnel house, were not common until the austerity of the fourteenth century, and are beginning to be abandoned. In more recent times Death seems to have been portrayed as a beautiful Youth; and it is under this form that he is represented by Canova, on the monument which George IV, of England, erected in St. Peter's at Rome, in honor of the Stuarts.

Crested Grebe.

CRESTED GREBE, GAUNT, OR WATER WITCH.

Grebes, or Water Witches. The following account of Grebes, or Water Witches, is from the pen of an enthusiastic ornithologist. We take great pleasure in being able to inform our readers that he will often favor us with the results of his inquiries and experience. We are glad to be able to make this statement, because we are perfectly satisfied that his communications may be depended upon for their accuracy; and so many errors and strange stories are in circulation respecting the habits of birds, that it is very desirable they should be set aside for what is true.

The singular class of birds, scientifically classed under the genus *Podiceps*, but which are popularly called *Grebes*, and in New England, *Water Witches*, contains four distinct species which are to be found in North America.* Of these the *Podiceps cristatus*, or *Crested Grebe*, of which we have given a representation above, is by far the largest, as it is also, when dressed in its summer garb, among the most beautiful. As this species combines nearly if not quite all the characteristics which distinguish this genus and serve to mark it as among the most interesting birds in ornithology, in speaking of its peculiarities, I may, unless the contrary be distinctly stated, be regarded as meaning to imply the same of the other species. In the early part of autumn, sometimes as early as the first of September, these birds commence their migrations from their breeding-places in the northern parts of the continent to warmer climates; and all, with the exception of the Red-necked Grebe, spend the winter months in the fresh water lakes, ponds, and rivers of the southern States. This species is at that time found scattered along the seacoast as far south as New Jersey, as are also stragglers of the Horned and Crested Grebes. About the same time they begin

* The *Podiceps minor*, although occasionally found near Hudson's Bay, is to be regarded as rather a visitant than an inhabitant.

to change their eminently beautiful garb of summer for the more sober and uniform raiment of winter. In the early part of spring they again resume what has been so beautifully as well as justly styled their 'bridal garments,' and proceed towards the inclement north. Their migrations are probably made by short inland flights from river to river, from pond to pond, and from lake to lake. To this the Red-necked species probably forms an exception, in taking the seacoast on its way north. They breed on the borders of small ponds and lakes; their nests are said to be built of decayed weeds and rushes, and they lay about five eggs, differing of course in size and markings, with the species.

Next in size to the Crested Grebe is the *Rubricollis*, or Red-necked, which is about five inches shorter, being nearly nineteen inches in length. This species, although in most respects similar to the other members of the genus, differ from them, as has been already stated, in the place in which it spends the winter, and may perhaps be yet found to breed on the salt marshes instead of the fresh. In common with the others, its winter dress is remarkably plainer than its summer plumage.

The Pied-billed and the Horned are of nearly the same size, differing but little from fourteen inches in length; they are also nearly exactly similar in their habits. The former have, however, I believe never been found on the seacoast in winter, though the latter have. One of the latter species, which was the only individual of that species ever to my knowledge found at that time in Massachusetts, was procured from Nahant in February last, and is at present in the collection of the Boston Society of Natural History. I found it there in company with the Red-necked Grebe, the habits of which species while on the seacoast it imitated in its manner of searching the neighborhood of the shores for food. The stay was of short duration, as they were only noticed in that vicinity for about three weeks. They are a very unusual bird to our coast, as the gunners at Nahant never had seen any *Water Witches*, as the whole genus is not unaptly termed, of so small a size before the last winter. Their food was principally shell-fish, and a kind of shrimp, called by the fishermen the Sea Flea. I have seen them diving in search of these in under the rocks, where they disengage pieces of sea-weed which they bring to the surface and carefully pick from it whatever they may find there that is edible. While diving in search of this kind of food they occasionally vary their fare with muscles; but this they do not always effect with impunity, as instances are not unknown where not only this but the larger species have found in the muscle too strong an antagonist, and who, closing upon the head of the unfortunate intruder, has made him pay for his rapacity with his life.

I was watching one of these birds last winter in company with an experienced gunner, when it dived in the direction of the shore. Assured by my companion that, both from the manner and direction in which it went down, it could not rise except within a small cove formed by two projecting rocks, we hastened each to a different side of the place, with the conviction that its escape from us was next to impossible. But after waiting a much longer time than was sufficient to exhaust all the air in those curiously constructed cells which enable the bird to remain so long under water, no bird made its appearance, and I was informed, not a little to my surprise, that such occurrences were by no means uncommon, particularly with the larger species. These mysterious disappearances were for a long time unexplained, and many and various were the conjectures to which they gave rise. Some persons went so far even as to invest them with a charmed life; others imagined them capable of remaining under water any length of time, with the same powers of sustaining life in that situation as are possessed by fish: while others, still, with more appearance of justice, supposed them capable of remaining so long under water as to be able to swim to such a distance in concealment as not to be perceived when they rose. The last supposition, though in some measure correct, and serving as it does to explain, at least very plausibly, the greater part of these sudden disappearances, is still insufficient to do so in all. Instances, like the one I was so fortunate as to witness, were by no means uncommon, where their escape in this manner was in the highest degree improbable not to say impossible. The mystery was however at length satisfactorily explained. The dead body of one of the larger species was found washed up on the shore after a violent storm; its head still confined in the embrace of a large muscle. This discovery served at once satisfactorily to explain, and without the aid of magic, occurrences that had so long perplexed all the gunners on our coast.

These birds are extremely expert in diving, so much so that it is next to impossible for the shot to reach them before they are under, except at a very close shot, and with a most excellent percussion lock. With the old fashioned fowling-pieces it is considered next to impossible and is never attempted, the probability of obtaining them, being considered so slight as not to repay the trouble and the loss of powder. Should the shot, however, reach them so as even to inflict a mortal wound, the chance of obtaining them, even then, is still rendered extremely small by their great tenacity of life. Indeed so great is this that the Horned Grebe already spoken of, although wounded so severely in its head that its cranium was literally crushed so much as to render it impossible to take off its skin with any degree of nicety, was yet able to swim several rods, and dive several times before it was taken, and then it was done with great difficulty, by a very excellent dog. These birds have been known repeatedly to swim several miles after having received a mortal wound, and even to baffle by their fleetness a whole boat's crew, and obtain a temporary escape. In addition to all this, the difficulty of shooting them is still further increased by the obstacle which their feathers present when the bird is facing you. It is considered, and with every appearance of justice, impossible for the shot to penetrate the feathers while in that position. I have twice, by concealing my-

self in sea-weed, surprised individuals of the Red-necked species, and fired at the breast when they were less than six feet from the muzzle of the gun, and yet in both instances they escaped apparently uninjured. That their escape was not wholly owing to my unskilfulness, and that the shot struck them, may be inferred from the fact that it threw up the water on all sides of them; and that in one case the bird was thrown by the force of the concussion out of the water. That the shot struck them with sufficient force to have it take effect under ordinary circumstances may be inferred with some slight degree of probability from the fact that with the same gun I buried four shots at the distance of eighteen rods in a piece of board a foot square with only an ordinary charge; in both of the above cases I fired at the birds with double charges. The following little incident, which we find in the indefatigable Audubon's account of the Red-neck Grebe, will serve in some measure to corroborate my statement. 'Our boat was rowed over an eddy in which a pair had dived in search of food. On emerging they were only a few yards distant; but, although several guns were fired at them, they escaped unhurt, for they instantly dived again, passed under the boat at the depth of about a yard, and did not rise until at a safe distance. None of us could conceive how they had managed to elude us, for, as they were so near, the shot threw up the water in its course, and I had expected to find them completely mangled.' No such obstacle, however, would seem to be presented by their plumage when the shot enters in the direction of the feathers.

Their great tenacity of life combined with their great expertness in diving at the flash, their mysterious disappearances combined with their impenetrable front, have served in no small degree to invest these birds with claims to superstitious regard; and the legends which exist respecting them are as numerous as they are absurd and incredible. Their charmed life has however been found to yield to the potency of percussion locks, and even to the agency of the humble muscle; and although it is still regarded as extremely difficult, it is by no means looked upon as impossible to shoot them.

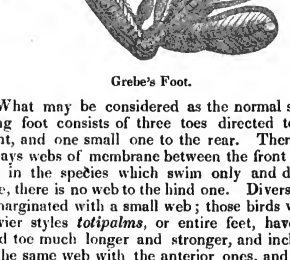
The genus podiceps to which these birds belong is one of the most strongly marked of the different genera of birds; indeed, with the exception perhaps of the birds of prey, it may be said to be the most so. Their feet are very peculiar, and, except remotely, resemble those of no other bird. They differ from all other birds, except the phalarope and the coot, in having each toe provided with a separate web or rather lobe, instead of having the front toes united by a continuous web. From both of these they differ both in habits as well as in the much greater size of their webbed toes. The very peculiar construction of the feet of this genus, and the manner in which they are employed to execute different motions, are so well described by Robert Mudie in his Natural History of Birds, that I cannot better conclude than with the following interesting and faithful passage.

'There are not so many diversities of form in the feet of aquatic birds as in those which inhabit the land, whether they seek their food on the earth itself, or upon vegetable substances. The element is the same, or nearly the same, in all water birds, so that the only thing which remains to which the feet have to be adapted is the difference in habit among the birds themselves. There is, however, one difference of element which requires a corresponding modification of the foot: there are some birds which are very exclusively in the water, and, as such, water birds, in the form of their bodies and the manner in which their feet are articulated; but they frequent those waters which are full of the stems of reeds and other aquatic plants, among which the structure of foot which is best for action in the clear or open water would, of course, not be the most convenient. The foot for action in the open water is a continuous web of membrane between the toes, which varies with the habit of the bird; but among stems this web could not be so conveniently used, as it would be liable to get entangled or interrupted, if not torn. Accordingly, these birds have the toes only lobed, so that they can be drawn through between the stems with the less opposition. Some of the birds which have these partake of the character of shore or bank birds, and can walk upon the land as well as swim upon the water. These are the coots and phalaropes, which continue the succession from the gallinules, which, through the landrails, have some relation to certain species of the gallinaceous birds. They, when on land, carry the axis of the body in nearly a horizontal position; and the lobes on their toes are divided into segments answering to the phalanges. Of these the foot of the common coot is an instance.

Grebes, though chiefly frequenters of fresh water lakes, have much more aquatic habits. They have the body of the true canoe shape, and the legs articulated so far backwards, that they cannot support the axis of the body in a horizontal position upon land. They accordingly walk with the spine nearly erect; they walk with difficulty, and are never found far from the water. Their feet have complete lobes to all the toes, and even the tarsus is flattened, and has a membranous margin, so that the foot is a swimming foot all over, though one adapted to peculiar places. The articulations of the tarsi have a rolling motion, and those of the tibia also work outwards when the feet act in swimming. The looseness of these two joints renders the bird incapable of moving along the ground with the legs steady; and this, more than the mere form of the lobed toes, is the reason of its being so bad a walker.

But the feet are admirably fitted for aquatic motion. They turn their thin edges nearly in the direction of the resistance when they are drawn forward, but they strike back with the full breadth of their webs, and they can turn on the joints so as to give the stroke in a variety of directions, and thus impel the body upon any course which may be necessary to the bird in following its prey in the water. The wings also come into action in swimming, though more as points of support, against which the legs act, than as propelling organs. But the birds are altogether excellent swim-

mers, or rather coursers through the water with great speed. They do not dabble like ducks, but plunge freely into the water, and dash along, not by alternate strokes of the feet, as in a common walking motion, but by striking with both at once, as a frog does. It is to enable them to perform this motion that the wings are brought into action as well as the feet; and the same kind of motion could not be performed, and the intended course kept, without the wings. This is, in part at least, the reason why those aquatic birds, which are incapable of flight, have the wings, though destitute of flying feathers, much more produced and capable of motion than those of the running birds upon land. The different styles of motion through the water, whether on the surface or below it, can, however, be more briefly as well as clearly explained, by giving attention to the habits of those birds which have entire webs on the feet, and range the water in places where they are not liable to interruption from the stems of plants.



Grebe's Foot.

What may be considered as the normal swimming foot consists of three toes directed to the front, and one small one to the rear. There are always webs of membrane between the front toes; but in the species which swim only and do not dive, there is no web to the hind one. Divers have it marginated with a small web; those birds which Cuvier styles *totipalms*, or entire feet, have the hind toe much longer and stronger, and included in the same web with the anterior ones, and they have the whole foot turned in a particular direction, the purpose of which will be explained afterwards; and there are some genera which are in the habit of tipping the surface of the water with their feet, while their bodies are nearly or altogether supported by the wings in the air, and these have the hind toe merely rudimental, and the foot narrower in proportion than any of the others.' W.

SAMUEL BRADY.

I left Beavertown in the mail coach, at eleven in the forenoon, for Poland, in Trumbull county, Ohio, distant thirty-eight miles. Directly on leaving Bridgewater, and crossing a small stream, on a neat bridge, we began to ascend a long steep hill, called Brady's Hill. It received its name from an interesting border adventure, which occurred in 'early times,' near its base. Captain Samuel Brady was one of that band of brave men, who lived, in the trying days of the American Revolution, on the western borders, exposed to all the horrors and dangers of Indian warfare, and whose names should be perpetuated in history. He held a commission under the United States, and for a part of that time commanded a company of rangers, who traversed the forests, for the protection of the frontiers. He was born in Shippensburgh, Pa., in the year 1758, and removed probably when a boy, into the valley of the Monongahela. At the period of this adventure he lived on Chartier Creek, about twelve miles below Fort Pitt; a stream better known, however, to the pilots and keel-boatmen of modern days, by the significant name of *Shirtee*. He died in 1796, soon after the close of the Indian war. A number of articles were published in the Blairsville Recorder, a year or two since, detailing his adventures, which would make a most interesting volume. His father and a brother were both killed by Indians.

Legend of Brady's Hill. I received the particulars of the following story from one of the passengers in the coach, who had resided in the country several years, and had often heard it related. Samuel Brady, the hero of the following adventure, was over six feet in height, with light blue eyes, fair skin, and dark hair: he was remarkably strait, an athletic, bold, and vigorous backwoodsman, inured to all the toils and hardships of a frontier life, and had become very obnoxious to the Indians, from his numerous successful attacks on their war parties, and from shooting them in his hunting excursions, whenever they crossed his path, or came within reach of his rifle; for he was personally engaged in more hazardous contests with the savages, than any other man west of the mountains, excepting Daniel Boone. He was in fact an Indian hater, as many of the early borderers were. This class of men appear to have been more numerous in this region, than in any other portion of the frontiers; and this doubtless arose from the slaughter at Braddock's defeat, and the numerous murders and attacks on defenceless families that for many years followed that disaster. Brady was also a very successful trapper and hunter, and took more beavers than any of the Indians themselves. In one of his adventurous trapping excursions to the waters of the Beaver River, or Mahoning, which in early days so abounded with the animals of this species that it took its name from this fact, it so happened that the Indians surprised him in his camp, and took him prisoner. To have shot or tomahawked him on the spot would have been but a small gratification to that of satiating their revenge by burning him at a slow fire, in presence of all the Indians of their village. He was therefore taken alive to their encampment, on the west bank of the Beaver River, about a mile and a half from its mouth. After the usual exultations and rejoicings at the capture of a noted enemy, and causing him to run the gantlet, a fire was prepared, near which Brady was placed, after being stripped naked, and with his arms unbound. Previously to tying him to the stake, a large circle was formed around him, consisting of Indian men, women, and children, danc-

ing and yelling, and uttering all manner of threats and abuse that their small knowledge of the English language could afford. The prisoner looked on these preparations for death, and on his savage foes, with a firm countenance and a steady eye, meeting all their threats with a truly savage fortitude. In the midst of their dancing and rejoicing, a squaw of one of their chiefs came near him with a child in her arms. Quick as thought, and with intuitive prescience, he snatched it from her and threw it into the midst of the flames. Horror-struck at the sudden outrage, the Indians simultaneously rushed to rescue the infant from the fire. In the midst of this confusion, Brady darted from the circle, overturning all that came in his way, and rushed into the adjacent thickets, with the Indians yelling at his heels. He ascended the steep side of the present hill, amidst a shower of bullets, and darting down the opposite declivity, secreted himself in the deep ravines and laurel thickets that abound for several miles to the west of it. His knowledge of the country and wonderful activity enabled him to elude his enemies, and reach the settlements on the south of the Ohio river, which he crossed by swimming. The hill near whose base this adventure is said to have happened still goes by his name; and the incident is often referred to by the traveller, as the coach is slowly dragged up its side.

Brady's Pond. In the course of this afternoon, we passed near several small lakes, from half to three fourths of a mile long, and nearly as wide; being embosomed among low green hills, they resembled beautiful pearls, surrounded by emeralds. One of these, called Brady's Pond, is seated about three miles from the cliffs, or the narrows of the Cuyahoga. From undoubted authority, it seems the following incident actually transpired in this vicinity. Brady's residence was on Chartier's creek on the south side of the Ohio, as before noted; and being a man of Herculean strength, activity, and courage, he was generally selected as the leader of the hardy borderers in all their incursions into the Indian territory north of the river. On this occasion, which was about the year 1780, a large party of warriors, from the falls of the Cuyahoga and the adjacent country, had made an inroad on the south side of the Ohio river, in the lower part of what is now Washington county, but which was then known as the settlement of Catfish Camp, after an old Indian of that name who lived there when the whites first came into the country on the Monongahela river. This party had murdered several families, and with the plunder had recrossed the Ohio before effectual pursuit could be made. By Brady a party was directly summoned, of his chosen followers, who hastened on after them; but the Indians having one or two days the start, he could not overtake them in time to arrest their return to their villages. Near the spot where the town of Ravenna now stands, the Indians separated into two parties, one of which went to the north, and the other west, to the falls of the Cuyahoga. Brady's men also divided; a part pursued the northern trail, and a part went with their commander to the Indian village, lying on the river in the present township of Northampton in Portage county. Although Brady made his approaches with the utmost caution, the Indians, expecting a pursuit, were on the look-out, and ready to receive him, with numbers fourfold to those of Brady's party, whose only safety was in a hasty retreat, which, from the ardor of the pursuit, soon became a perfect flight. Brady directed his men to separate, and each one to take care of himself; but the Indians knowing Brady, and having a most inveterate hatred and dread of him, from the numerous chastisements which he had inflicted upon them, left all the others, and with united strength pursued him alone. The Cuyahoga here makes a wide bend to the south, including a large tract of several miles of surface, in the form of a peninsula; within this tract the pursuit was hotly contested. The Indians, by extending their line to the right and left, forced him on to the bank of the stream. Having, in peaceable times, often hunted over this ground with the Indians, and knowing every turn of the Cuyahoga as familiarly as the villager knows the streets of his own hamlet, Brady directed his course to the river, at a spot where the whole stream is compressed, by the rocky cliffs, into a narrow channel of only twenty-two feet across the top of the chasm, although it is considerably wider beneath, near the water, and in height more than twice that number of feet above the current. Through this pass, the water rushes like a race-horse, chafing and roaring at the confinement of its current by the rocky channel, while, a short distance above, the stream is at least fifty yards wide. As he approached the chasm, Brady, knowing that life or death was in the effort, concentrated his mighty powers, and leaped the stream at a single bound. It so happened, that, in the opposite cliff, the leap was favored by a low place, into which he dropped, and grasping the bushes, he thus helped himself to ascend to the top of the cliff. The Indians, for a few moments, were lost in wonder and admiration, and before they had recovered their recollection, he was half way up the side of the opposite hill, but still within reach of their rifles. They could easily have shot him at any moment before, but being bent on taking him alive, for torture, and to glut their long delayed revenge, they forbore the use of the rifle; but now seeing him likely to escape, they all fired upon him: one bullet wounded him severely in the hip, but not so badly as to prevent his progress. The Indians having to make a considerable circuit before they could cross the stream, Brady advanced a good distance ahead. His limb was growing stiff from the wound, and as the Indians gained on him, he made for the pond which now bears his name, and plunging in, swam under water a considerable distance, and came up under the trunk of a large oak, which had fallen into the pond. This, although leaving only a small breathing place to support life, still completely sheltered him from their sight. The Indians, tracing him by the blood to the water, made diligent search all round the pond, but finding no signs of his exit, finally came to the conclusion that he had sunk and was drowned. As they were at one time standing on the very tree beneath which he

was concealed, Brady, understanding their language, was very glad to hear the result of their deliberations, and after they had gone, weary, lame and hungry, he made good his retreat to his own home. His followers also all returned in safety. The chasm across which he leaped is in sight of the bridge where we crossed the Cuyahoga, and is known in all that region by the name of *Brady's Leap.—Am. Jour.*

THE JINGKO TREE.

We take the following lines from The Boston Daily Advertiser and Patriot.

For the information of distant readers it may be proper to state, that the Jingko is a Chinese tree which formerly stood on the hill owned by Gardiner Greene, Esq., but which was removed to Boston Common, when this hill was dug down.

Thou queer, outlandish, fan-leaved tree,
Whose grandfather came o'er the sea,
A pilgrim of the ocean,
Did'st thou expect to gather gear,
By selling out thy chop sticks here?
What a mistaken notion!

Hard times, methinks, have been thy fate,
Such as have played the deuce of late,
With men's estates and purses.
Since on thy native mount secure,
Thou deem'dst thy *title* safe and sure,
Nor dream'dst of such reverses.

They dealt thee many a sturdy thump,
They digged the earth beneath thy stump,
And left thee high and dry. m
The spot, which once thy roots did bore,
Is now the garret of a store,
And earth is changed to sky.

They dragged thee sweeping through the street,
They set thee up upon thy feet,
And bade thee sink or swim.
For many a month 'twas quite a doubt,
If thou could'st possibly hold out,
Thou look'dst so very slim.

And every morn a motley crew
Of idling loungers came to view
Thy withered limbs on high;
And many a knowing look was there,
While some that thou would'st live, did swear,
And some that thou would'st die.

Some shook their heads, and hinted fear,
It cost so much to move thee here,
That taxes would be cruel.
And some exclaim'd, what pity 'twas,
In these hard times t' incur the loss
Of half a cord of fuel.

But thou, most grave and sapient tree,
Their idle talk was nought to thee,
Yet could not be prevented:
So thou did'st wave thy breezy head,
And nod assent to all they said,
And send them home contented.

Meanwhile thou didst resort to toil,
Send forth small roots in quest of soil,
And husband well thy gains.
Two years thou mad'st but little show,
But let thy useless *trimmings* go,
And liv'dst within thy means.

Dear Jingko, in these days of dread,
Methinks a lesson may be read,
In thy lorn situation.
Thy story might perhaps impart
To many a vexed and drooping heart
Some hints of consolation.

Tell them that thou too hast been distressed,
And found thyself at times quite pressed
For want of friendly propping;
When none who witnessed thy mishap
Would lend thee half a gill of sap
To save thee ev'n from stopping.

Tell them how low thy *credit* sank,
And how they ran upon thy *bank*,
And cleared thy *vaults* profound;
How thy *supplies* were all cut off,
And sure thy *stock* was low enough
When flat upon the ground.

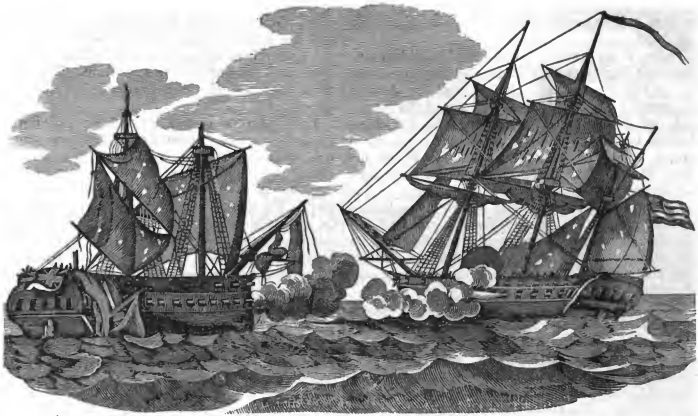
But thou, brave tree, didst not despair,
But heldest up thy head in air,
And wast not seen to flinch.
Thou let'st them know for very *spunk*
Thou still hadst something in thy *trunk*,
To serve thee at a pinch.

So when thou hadst *set up* again,
Although thy garb was rather plain,
Thy garments old and dusted,
Yet men who saw thy frugal ways,
Remembering such in earlier days,
Believed thou might'st be *trusted*.

The birds, thy customers of yore,
To thy new stand came back once more
As an established place.
It made thy heavy *heart* feel light
When they discharged their *bills* at sight,
And paid their *notes* with grace.

And so thou hast survived thy fall,
And fairly disappointed all
Who thought to see thee down.
And better days are stored for thee—
Long shalt thou live, triumphant tree!
And spread thy foliage broad and free,
A *credit* to the town.

A Russian Fair. The emperor of Russia has made several new regulations, conferring additional privileges on the fair of Nijny Novogorod. Nijny Novogorod is the Russian town *par excellence*. It is there only where the true Russian blood is met with. Moscow is the city of the nobles of the old school; St. Petersburgh, the seat of Russian civilization; Archangel is the depot for the riches of the north; Odessa forms a link in the chain of eastern commerce; Riga is the port of the Baltic, —the monument of faith; Kazan and Astrachan are the towns conquered by the Tartars; but the city of Nijny Novogorod is the most Russian and important of all. It is at the same time the ancient cradle of the Russians, and the modern depot of their commercial wealth. The Volga and the Oka unite their waters near it; all the great roads centre in it; all that the East has of the most rich, or the West of the most elegant, is to be found there. In one word, Nijny Novogorod is the *entrepot* of Europe and Asia, since the moment that the emperor transferred to it the fair of Makariew. In 1836, the fair produced 118,000,000 of paper money rubles. Through it are passed into Russia the shawls of Cashmere, the pearls, the drugs, the tea, the stuffs, of the East, the porcelain and the horses of pure blood; and from thence are passed into Asia, cloth, glass, and hardware.



The United States and Macedonian.

UNITED STATES AND MACEDONIAN.

According to the official accounts of the action between the United States and Macedonian, it appears that Stephen Decatur, commander of the former, fell in with the latter in latitude twenty-nine degrees north, longitude twenty-nine degrees thirty minutes west, on the twenty-fifth of October, 1812, and came into action at nine o'clock in the morning. The battle continued, according to Commodore Decatur, one hour and a half; and, according to Captain Carden, of the Macedonian, two hours and ten minutes. At the commencement of the engagement the Macedonian was to windward, and had the advantage of choosing her distance, which was so great that, for the first half hour, the United States could not use her carronades, and at no time was the Macedonian within the complete effect of her musketry or grape. To this circumstance and a heavy swell of the sea, has been ascribed the unusual length of the action. At last, 'having the mizzenmast shot away by the board,' says Captain Carden, in his official report, 'topmasts shot away by the caps, main-yard shot in pieces, lower masts badly wounded, lower rigging all cut to pieces, a small proportion only of the foresail left to the fore-yard, all the guns on the quarter deck and forecastle disabled but two, and filled with wreck; two also on the main deck disabled, and several shot between wind and water; a very great proportion of the crew killed and wounded, and the enemy comparatively in good order, who had now shot ahead and was about to place himself in a raking position, without our being enabled to return the fire, being a perfect wreck and unmanageable log,—I deemed it prudent, though a painful extremity, to surrender his majesty's ship. Nor was this dreadful alternative resorted to till every hope of success was removed, even beyond the hope of chance; nor till, I trust, their lordships will be aware every effort had been made against the enemy by myself, my brave officers and men; nor should she have been surrendered whilst a man lived on board had she been manageable.' The loss on board the Macedonian was thirty-six killed; thirty-six severely wounded, several of them mortally; and thirty-two slightly wounded. The loss on board the United States was five killed and seven wounded; and the damage sustained by the ship itself was so comparatively unimportant that it would have continued to cruise, had it not been desirable to conduct the prize into port.

The American ship arrived off New London with her prize on the fourth of December, and thence proceeded through Long Island Sound to New York. Commodore Decatur received from all quarters the congratulations of his countrymen. A gold medal was voted to him by Congress, and swords by the legislature of Pennsylvania and the city of Philadelphia; and various other testimonials of public regard were bestowed upon him and his crew.

The news of the victory was received at Washington on the evening of the eighth of December. A large and brilliant company, including the beauty and fashion of the city, was then assembled at a ball given in compliment to the officers and navy generally, and particularly to Captain Stewart, in acknowledgment of his politeness to the citizens of Washington on a recent occasion. The colors of the Guerriere and Alert were displayed on the walls of the room in which the company was assembled. At this time Lieutenant Hamilton arrived with the colors of the Macedonian and despatches from Commodore Decatur. He was received with loud acclamations and escorted to the festive hall; and the colors of the Macedonian were borne into the room by captains Hull and

Stewart, and deposited with those of the Guerriere and Alert.

There is an anecdote connected with this engagement, highly creditable to the generous feelings of the crew of the United States. Among the mortally wounded on board was John Archibald, one of the carpenter's crew, who left three children to the mercy of the world and a worthless mother, who had abandoned them. When his father went on board the frigate to claim the wages and property of his son, the circumstances of his family were inquired into, and a plan immediately agreed upon by the seamen for the relief of the fatherless children. The sum of two dollars apiece was subscribed, and thus eight hundred dollars were immediately raised for their maintenance and education.

Captain Carden spoke in high terms of approbation of the conduct of Commodore Decatur and his officers. The private property of the officers and crew of the Macedonian was given up. Property to the value of 800 dollars, claimed by Captain Carden, was paid for by the United States Commodore. The commander of the Macedonian had been distinguished for his civilities to such Americans as he met with at sea before the war, and his noble liberality and consoling attention to such as he found in distress were the subject of frequent remark and commendation, and show that though in the eye of nations he was to be regarded as an enemy, yet in the broader view of humanity and philanthropy, he was to be placed by the side of his fellow men as a benefactor and sympathizing friend, ready to discharge his duty to his country, but yet never unmindful of the honor for which naval officers are eminently distinguished.

THE RUSSIAN KNOUT.

The following description of this horrid punishment is extracted from an article in the Knickerbocker for April.

Exactly at seven o'clock, a bustle among the military attracted our attention; and on looking round, we saw the criminal approaching on foot, guarded by four dismounted *gens d'armes* with naked sabres, accompanied by several officers of police, and followed by two executioners—each bearing under his arm a bundle, which we afterwards found contained knout thongs. The battalion now formed a hollow square, three deep—the police, executioner, and criminal being in the centre.

No sooner had the soldiers taken their ground than a rush ensued among the crowd to secure good situations, and in the scramble I was separated from my friend, whom I did not again see till after the execution. So shoved about was I in the crowd, that at one time I thought I should have missed seeing the ceremony after all. However, the soldiers saved me from this disappointment, as they politely received me into their ranks, and I was at once placed within a few yards of the criminal, where I had an uninterrupted view of every thing that was going on. Immediately upon the square being formed, the military presented arms, and the crowd uncovered their heads, while the principal officer of police in attendance, read the emperor's warrant for the execution. This being done, the criminal was delivered over to the executioners.

Even at this moment, when the prisoner was naturally the chief object of interest, my attention was strongly arrested by the appearance of the principal executioner, so much so, indeed, that I had the curiosity to inquire afterwards into his history. His name, if I recollect aright, was Kozloff: he originally belonged to the higher class; but for cruelties committed upon his peasants, which, I believe, in some cases extended to the commission of murder, he was degraded and sentenced to the knout. From this he saved himself by volunteering to his present situation. He was, I think, without exception, the coarsest specimen of humanity that I ever beheld. His age seemed to be about fifty; his stature was greatly beyond the average, and in spite of a stoop, must by some inches have exceeded six feet, while his shoulders were immoderately broad, his body large, without corpulency, and his limbs bulky and athletic. A profusion of dark-colored hair, or rather bristles, enveloped his head, his complexion was of a fierce mahogany tinge, while his huge, uncouth, shapeless features wore an expression in which it was impossible to say whether ferocity or stupidity predominated. The assistant of this male Gorgon—this ogre in the form of man—was about twenty-two years of age, and the reverse in every respect of his principal. I cannot describe him better than by saying that he formed one of the most favorable specimens of a young Russian peasant I ever met with. He had been originally a postilion in the service of the Grand Duke Michael, but being implicated in a robbery of his imperial highness's baggage, he, like his chief, to save himself from the knout, volunteered to the same execrable service. Both these men are kept constantly in prison, and are only brought out when their revolting task is to be performed. My informant mentioned, at the same time, that Kozloff seemed sunk in misery and desponding, except when he managed to procure the means of intoxication, and then he becomes absolutely furious. Dear must life be to some men, when a bare subsistence is purchased on such terms.

I must now describe the criminal. He was apparently about twenty-five years of age, very full-built, but of low stature, with a countenance of that stolid description which defies all the science of the physiognomist. Though near him, and anxious to read in his features the workings of the mind within, I could neither trace remorse, ferocity nor fear. He seemed perfectly callous to his situation, and while sentence was being read, he deliberately took off his cap, and prepared himself with perfect coolness for his punishment. Having thrown aside his caftan and shirt, and having nothing on but his trowsers and boots, he approached the stake with a firm step, and was duly fastened to it by the executioners. This done, these functionaries threw off their coats, and got

ready the instruments of torture. The knout consists of a handle about a foot long, with a piece of twisted hide of the same length. To this hide is attached, by a loop, a piece of thong prepared to almost metallic hardness, in length about four or five feet, perfectly flat, and an inch broad; it is changed after every six or eight blows, as it is considered unfit for use when it becomes soft.

The principal executioner having placed himself within five or six feet of the prisoner, with the thong of the knout on the ground, rather behind him, then drew it forward, raising it slowly and steadily till it had attained the proper elevation, when he brought it down with tremendous force upon the middle of the criminal's back, leaving a deep crimson mark of nearly an inch in breadth, extending from his neck to the waistband of his trowsers. Upon receiving the blow the wretch uttered a scream, or rather a yell of agony, and every fibre of his body seemed in a state of violent and instantaneous contortion. With scarcely any interval, the blow was repeated, followed by the same result—the same frightful yell—the same appalling shudder. The second mark appeared about an inch from, and parallel to, the first; a third, fourth, and fifth blow followed, in quick succession, when the operator stepped aside and resigned his place to his assistant.

The blows from the latter were light when compared with those inflicted by the elder executioner, more so indeed than the difference between their size and strength, great as it was, might seem to justify. After giving eight blows, the assistant retired in his turn, when his principal, who in the mean time had fitted on a fresh thong, resumed the dreadful task. He was again succeeded by the young man, who in like manner had renewed the efficacy of his weapon by a similar process of renovation. In this manner did they continue mutually relieving one another; and at each relay, adding a new thong, till the destined number of blows were inflicted on the lacerated back of the parricide. About the fiftieth stroke, his struggles having partially loosened the fastenings, it was found necessary to stop and have them fixed more firmly. From the first till about the twentieth blow, each was followed by the same scream and convulsions; from the twentieth to the fiftieth, both gradually became weaker; the latter indeed had degenerated into a sort of shivering. After the fiftieth, both ceased; the criminal's head fell to one side, and though each touch of the knout brought with it a convulsive shudder, he seemed to be perfectly unconscious of pain.

The punishment concluded, the chief executioner took some instruments from a big bag, and with them marked the malefactor on the forehead, on each cheek, and on the chin. This, I understand, was merely in form typical of branding, which, as well as slitting the nostrils, was always inflicted upon a knouted criminal, until the humanity of the emperor Alexander prompted him to abolish both practices. The marks are now made with a cold instrument, and are, I believe, easily effaced.

The criminal's back now exhibited a horrid spectacle. It was one mangled, bloated mass, of a deep crimson hue, yet still, mangled as it was, no blood ran from it. A common cart having been drawn into the square, the executioners untied the strap by which the malefactor was fastened to the stake, and with the assistance of the *gens d'armes* carried him to and placed him in the cart, throwing his shirt lightly upon him, then his caftan, then a mat over all.

When removed from the stake, he was quite insensible; so much so, that I did not suppose he would survive till he reached the hospital—but I was mistaken—for upon observing him attentively after being placed in the cart, I observed that he had so far recovered as to attempt to move one arm. I could not observe any surgeon attending the execution; nor indeed would it have been of any consequence, as the number of stripes is specified, and whatever happens, they must be administered.

He was driven off to the prison with the same guards and attendants as at first; the whole affair, from the arrival to the departure of the criminal, not exceeding twenty minutes. What became of him afterwards, I could not learn; but I have little doubt that in a few days he died from the fever and mortification that were likely, or rather certain to follow such severe injury. On the event of his recovery, he would be sent to end his life in the mines of Siberia, and this could scarcely be called the least part of his punishment. Such is the knout.

MANUFACTURE OF SAGO.

We did not receive the following interesting letter, written for the American Magazine, till the 10th of June; but coming from a distant part of the world it is very acceptable for the information which it contains; and it shows that an interest is felt in our work in a quarter of the globe into which we hardly dared to flatter ourselves that it had found its way. If this number of the Magazine ever meets the eye of the writer, we hardly need assure him of the satisfaction we have felt in receiving this valuable communication in relation to an important article of commerce, and of the pleasure we shall take in inserting any other communications of a similar character which he may make.

Sir,—Accident has just thrown in my way 'The American Magazine of Useful and Entertaining Knowledge,' and before the three hours which yet remain of the year one thousand eight hundred and thirty-six are gone, permit me from the place of my abode, the antipodes of yours, to offer to you for publication the following description of the manufacture of that wholesome article of food, namely, *sago*.

Raw sago is the pith of a tree of the Palm family (*Metroxylon Sagu*). The tree being cut down, the exterior bark is removed, and the heart of it, a soft, white, spungy, and mealy substance, is gathered; and, for the purpose of distant transportation, it is put into conical bags made of the leaves of plantain trees and neatly tied up. In that state it is called by the Malays *sagoo lampin*, or bundles of sago; each bundle weighs about thirty pounds.

On its arrival here it is purchased by the Chinese manufacturers of sago, and is treated in the following manner. Upon being carried to the manufactory, the plantain leaf covering is removed, and the raw sago, imparting a strong acid odor, is bruised and is put into large tubs of cold spring water, when it undergoes a process of purification by being stirred, suffered to repose, and again restirred in newly introduced water. When well purified thus, it is taken out of the tubs by means of small vessels; and being mixed with a great deal of water the liquid is gently poured upon a large and slightly inclined trough, about ten inches in height and width; and in the descent towards the depressed end, the sago is deposited in the bottom of the trough, whilst the water flows into another large tub, where what may remain of sago is finally deposited. As the strata of deposited sago increase in the trough small pieces of slats are adjusted to its lower end to prevent the escape of the substance. When by this pouring process the trough becomes quite full of sago, it is then removed to make room for a fresh one, whilst the former one is put out into the air, under cover, for a short time, and on its being well dried, the sago within is cut into square pieces and taken out to be thoroughly dried under cover, to protect it from the sun. It has then lost the acid smell already noticed and has become quite white. After one day's drying thus, it is taken into what may be called the manufactory,—a long shed, open in front and on one side, and closed at the other and in the rear. Here the lumps of sago are broken up and are reduced into an impalpable flour, which is passed through a sieve. The lumps which are retained by the sieve are put back to be rebruised, whilst that portion which has passed is gathered and is put into a long cloth bag, the gathered ends of which, like those of a hammock, are attached to a pole, which pole being suspended to a beam of the building by a rope, one end of it is sharply thrown forward with a particular jerk, by means of which the sago within is shortly granulated very fine, and becomes what is technically called *pearled*. It is then taken out and is put in iron vessels, called here *quallies*, for the purpose of being dried. These quallies are small elliptical pans, and resemble in form the sugar-boilers of the West Indies or Louisiana, and would each hold about five gallons of fluid. They are set a little inclining, and in a range, over a line of furnaces, each one having its own fire. Before putting in the sago to be dried, a cloth which contains a small quantity of hog's fat or some oily substance is quickly passed into the qually, and the sago is equally quickly put into it, and a Chinese laborer who attends it, commences stirring it with a *pallit*, and thus continues his labor during the few minutes necessary to expel the moisture contained in the substance. Thus each qually, containing about ten pounds of sago, requires the attendance of a man. The sago on being taken off the fire is spread out to cool on large tables, after which it is fit to be packed into boxes or put into bags for shipment; and it is known in commerce under the name of *pearl sago*.

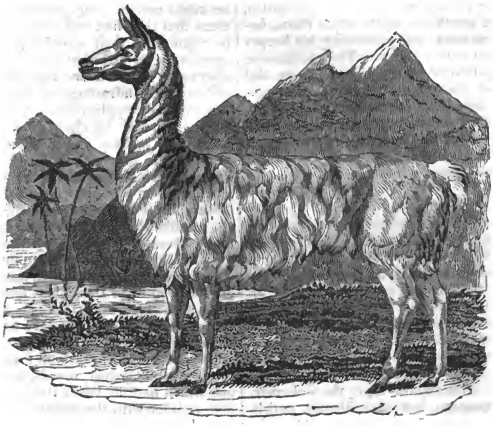
Thus the labor of fifteen or twenty men is required to do that which with the aid of simple machinery might be done much better by three or four laborers. A water wheel would both work a stirring machine and cause an inclined cylinder to revolve over a fire for the purpose of drying the sago, in the manner used for corn meal and flour. But the Chinese have no idea of substituting artificial means when manual ones are obtainable.

J. B.

Singapore, 31 December, 1836.

FRESH SPRINGS AT THE BOTTOM OF THE SEA.

These springs occur near the islands of Bahhrein and Arad, which are situated on the south side of the Persian gulf. Bahhrein is low and more fertile than any island in that gulf. Many fine groves of date trees are scattered over it, and perhaps the purest fresh water is to be found at a large pool having a spring near it, within two or three miles of the town of Monama. When Captain Maughan left Bahhrein in 1828, the island was in the possession of the Ootoobies, a powerful tribe of Arabs from the desert opposite. About one and a half or two miles to the northeast lies the little island of Arad, merely a low sandy islet, with a few date trees upon it, and a hamlet composed chiefly of fishermen's huts. The harbor for shipping is formed between Bahrain and Arad islands, from which project extensive reefs of rocks. The depth of the harbor is from three to four and a half fathoms, with a sandy bottom. On the western and north sides of Arad, at some distance from the beach, are springs of fresh water gushing from the submarine rocks, where the salt water flows over them at the depth of a fathom or two, according to the state of the tides. Some of the fresh water springs are close by the beach, and here the fishermen fill their jars or tanks without difficulty, but many of the springs are distant from the shore; and whenever the fishermen on the bank near them require water, they bring their boat close over the spring, and one of the crew dives under the surface of the salt water with a leathern *mussuck*, or tanned skin of a goat or sheep, and places the neck or mouth of it over the spring. The force of the spring immediately fills the bag with fresh water, and the man ascends without difficulty to the surface, and empties his cargo into a tank, and he descends continually to replenish his mussuck, until the tank be filled. Captain Maughan was told that some of the springs are in three fathoms water. The mussuck they use may contain from four to five gallons; the people who generally fish about these islands are pearl divers, accustomed to dive in twelve and fourteen fathoms water for pearls. They are a quiet, and, if not molested, a harmless race of Arabs; during the summer they wear but little clothing. There are also springs of fresh water under the sea near the northeastern part of Bahhrein island. From all that Captain Maughan could learn, above thirty springs of fresh water have been discovered in the sea, in the neighborhood of Bahhrein and Arad.



The White Llama.

WHITE LLAMA.

Llamas. There is considerable contrariety of opinion among naturalists, as has already been stated on page 220, whether individuals of this family belong to different species, or are varieties of the same,—a question we do not propose to discuss. We learn from Bewick and The Menageries, that they were found in South America, at the time of its conquest by the Spaniards; and before the introduction of mules, were used by the natives to plough the land, and are now used to carry burdens. Their flesh was eaten by the Indians, and their wool woven into cloth. Augustin de Zarate, who, in 1544, held the office of Treasurer-General, in Peru, thus describes these animals, which he calls *sheep*, as they were observed in the mountains of Chili.

'In the places where there is no snow the natives want water; and to supply this want they fill the skins of sheep with water, and make other living sheep carry them; for it must be remarked that these sheep of Peru are large enough to serve as beasts of burden. They resemble the camel in their shape, although they have not the hump on the back, like that animal. They can carry about a hundred pounds or more; and the Spaniards used to ride them—and they would go four or five leagues a day. When they are weary, they lie down upon the ground; and as there are no means of making them get up, either by beating or assisting them, the load must of necessity be taken off. When there is a man on one of them, if the beast is tired and is urged to go on, he turns his head round, and discharges his saliva, which has a very bad odor, into the rider's face. These animals are of great use and profit to their masters; for their wool is very good and fine, particularly of that species named *pacas*, which have very long fleeces; and they are of little expense for nourishment, for a handful of maize suffices them, and they can go four or five days without water. Their flesh is as good as that of the fat sheep of Castile. There are now public shambles for the sale of their flesh, in all parts of Peru where the animal is found. This was not the case when the Spaniards first came; for when one Indian had killed a sheep, his neighbors came and took what they wanted; and then another Indian killed a sheep in his turn.'

These animals travel long journeys in countries impassable by most other animals; are very sure-footed; and much employed in transporting the rich ores dug out of the mines of Potosi, over the rugged hills and narrow paths of the Andes. Bolivar remarks, that, in his time, three hundred thousand of them were constantly employed in this work. They furnish a striking instance of the determination of the locality of a particular group of animals according to the elevation of the surface, where they find their food. They are stationed upon different stages of the Cordilleras; and are found or disappear throughout that extensive chain of mountains, as the summits are elevated or depressed. Thus they range from Chili to New Granada, without reaching the isthmus of Panama. The species is not found in Mexico; probably because that, at the isthmus of Darien, the elevation of the Cordilleras is less than is suited to their natures and wants.

The white llama, of which we give a cut, differs in some respects from others, though it has many points of resemblance with the *camelus alpacea*, which is described as brown and partly black, and differs from the llama in being lower on his legs, and larger in his body. There was an individual

of this species, or variety, in the Jardin des Plantes, having the same gentleness as the white llama, being sensible to caresses, and permitting his keeper to lead him about with a halter. The prominence of the upper lip beyond the nostrils, the large and brilliant eye, and the extremely flexible ear, sometimes pointing forward, sometimes backward, are characteristics of all the llamas. All have not callosities, properly so called, either upon the breast or the legs, as the camel has, although they kneel down in the same manner.

THE SECOND FRENCH COLONY IN THE UNITED STATES.

We have given an account, on page 350, of the first attempt of the French to plant a colony on the soil of the United States. When the civil war in France (which had prevented Ribault from rendering to the first colonists at Fort Charles the succor which he had promised) was concluded, in 1564, Admiral Coligny informed the king that he had received no information from the colonists, and expressed concern lest they should perish. The king consented that three ships should be fitted out and sent to their relief. Rène Laudonnière, who had accompanied Ribault in the preceding voyage, upon the recommendation of Coligny was appointed by the king commander of the expedition. He sailed in April for Florida, and arrived at the river of May, which is now called the St. John's, on the twenty-fifth of June. He discovered the river St. Augustine, which he named the river of Dolphins, from the 'great number of dolphines, which were playing in the mouth thereof.' He was well received by the natives, who afterward prevailed on him to visit the pillar planted by Ribault, which he found 'crowned with crownes of Bay, and at the foote thereof many little baskets full of Mill.' He sailed northward several leagues; but, stopping short of Port Royal where the first colony had established itself, he returned to the river of May, being influenced in choosing this as a place for settlement, not only because the vicinity abounded 'in maize and corn,' but because of the gold and silver that had been found there in the first voyage. He selected a spot 'joyning to a mountaine,' and 'on the morrow, about the breake of day, commanded a trumpet to be sounded' to call the people together; when they sung a psalm of thanksgiving, and gathered courage from acts of devotion. He proceeded to build a fort, which he called Fort Caroline. His ships sailed for France on the twenty-eighth of July. Discontents and difficulties arose, in consequence of the character of a large portion of the emigrants. Laudonnière fell sick, and an attempt was made to poison him. His barks were stolen by his subjects, some of whom seized a Spanish vessel near Havana. Others, becoming dissatisfied and avaricious, stirred up a spirit of mutiny, and sixty-six of the company made application for permission to go to New Spain for provisions. Laudonnière, having orders 'to doe no kind of wrong to the King of Spaines Subjects, nor any thing whereof he might conceive any jelousie,' and being suspicious that they had evil intentions, took measures in relation to their request, which induced them apparently to abandon the project. Eight days afterwards Laudonnière was taken sick. The disaffected took advantage of this circumstance and renewed their application. A number of the ringleaders entered his chamber, with pistols in their hands, and insisted that he should accede to their wishes. He remonstrated. They took away the armor which he had stored in his house, laid violent hands on him and carried him, weakened by disease, on board a ship which rode at anchor in the middle of the river, where they kept him prisoner fifteen days; and, by threatening to take away his life, compelled him to furnish mariners and a skilful pilot, and to sign their passport. They sailed on the eighth of December, and soon quarrelled among themselves. The two vessels separated, immediately upon leaving the harbor, and did not meet each other for six weeks. Laudonnière's suspicions proved to be well founded. They captured several Spanish vessels, and among them was one which had on board the governor of Jamaica. Not satisfied with the wealth which they had taken with him, they carried him to the island itself. He had, in the mean time, so far gained their favor, that he obtained permission to send two small boys, who were captured with him, to his wife on shore, with the request that she would furnish him with provisions. By them he forwarded a private message to her with the request that she would send all the vessels in the vicinity to his rescue. The French were accordingly surprised; the Spaniards recovered their own vessels, though the pirates themselves escaped. The pilot and others, who had been compelled to accompany this expedition contrary to their inclinations, entered into an agreement to pass the Bahama channel, if possible, while the others were asleep. They accomplished their object, and towards the end of March arrived at the river of May, where four of the ringleaders were executed by Laudonnière.

After Laudonnière returned from the ship where he had been confined by the insurgents, he made the best arrangements he could for governing the colony and completing the fort. But before many months the hearts of the colonists began to be saddened by the gloomy prospect of famine. They had expected to receive supplies from France by the end of April at farthest; but no supplies came, and they were in great want. May passed without relief, and they were obliged to subsist on roots and sorrel. The soldiers and handicraftsmen were reduced to such weakness that they were unable to do anything more than go alternately to the top of a hill very near the fort, to see if some vessel were not coming to their relief. Finally, quite despairing of succor, they besought Laudonnière to take some measures for returning to France. The workmen undertook to fit up a bark. Laudonnière, with twenty-nine others, commenced a voyage of forty or fifty leagues, in the mean time, without provisions, for the purpose of procuring subsistence for the workmen. He was unsuccessful; and upon his return, the colonists urged him to take

provisions by force from the Indians. He discouraged such a measure, but succeeded in procuring a few supplies by barter. The Indians easily discovered their necessitous condition and made exorbitant demands for their articles; insomuch that Laudonnière says, he oftentimes saw the soldiers 'give away the very shirts from their backs to get one fish.' Utina, one of the Indian kings whom he had aided in war, upon being applied to for provisions, furnished him with a small quantity only; but assured him if he would send to him a few of his armed men, he could subdue a neighboring enemy, and obtain mast and maize. The colony was reduced to such extremities, that the offer was accepted. Utina led them against his other enemies, instead of conducting them where he had promised. The French were exasperated by the treacherous conduct, and when they returned to Fort Caroline, the resolution was formed to seize Utina. Laudonnière went with fifty soldiers to his village, took him and carried him on board his bark, telling his father-in-law that he would liberate him, on condition that the Indians would sell him provisions for merchandise. The Indians made an unsuccessful attempt to draw Laudonnière into an ambush. But few provisions were obtained, because the Indians supposed, that, according to the principles by which they were governed themselves, the French would put Utina to death in the end, however great might be the supplies with which they should furnish them. And furthermore, grain was scarce, because they had just finished their planting. The famine not only continued, but grew more dreadful every day. The colonists subsisted on whatever they could find which was convertible into food. Some ate roots pounded in gunpowder mortars. Others 'took the wood of esquine, beat it,' made meal of it, and boiled it. So great was the distress that one man gathered up all the fish-bones he could find in the filth around the governor's house, 'which he dried and beate into powder to make bread thereof.' Even the river did not 'afford such plentie of fish as it was wont.' An eye-witness of the sufferings says, that the bones 'began to cleave so neere unto the skinne, that the most part of the souldiers had their skinnes pierced thorow with them in many partes of their bodies.' In addition to all this suffering was the painful apprehension that they should be attacked by the natives in this weak condition, and put to death, with all the cruelty common among the savages.

After days and weeks of indescribable distress, during which Laudonnière, so far as his strength permitted, was indefatigable in his exertions to procure food, he succeeded in obtaining a small quantity of new maize. His soldiers were made sick in consequence of their eating more than in their weakness they could bear. As soon as he came in sight of the fort on his return, the famishing people rushed to the brink of the river where they thought he would land, and devoured on the spot what was distributed to them, without taking it out of the husk. The maize began to be ripe; small quantities were obtained, and two carpenters, important members of the colony, were killed by the Indians while they were collecting a little, in one of the fields, to pacify their hunger. Utina, who had been kept prisoner, now informed the governor that, if he would conduct him to his village, he would give him plenty of maize and beans. His proposition was accepted. The result was, that but a small quantity was obtained. The Indians, wearied and dissatisfied, had assumed a warlike attitude.

The workmen labored industriously, now that the means of subsistence began to be furnished them, in their preparations for returning to France. They had made some progress, when they were surprised, on the third of August, by the appearance of Sir John Hawkins, the English slave-merchant. He had made a second voyage to Guinea; and, having sold his slaves in the West Indies, stopped at the river of May to take in water, and gave relief to the colony. Laudonnière took advantage of this circumstance, and strongly impressed the minds of the Indians, who now flocked around him, with the idea that he should be amply supplied with men and provisions. Several of the chiefs, among whom were some of those who had assumed a warlike attitude, wanted to make alliances with him. Hawkins, knowing the desire of the colonists to return to France, offered to transport them. But Laudonnière, the governor, being unacquainted with the existing state of things between France and England, declined his offer; whereupon the soldiers began to remonstrate and become mutinous. Hawkins then made offers to a part of the company, to transport them if Laudonnière would give his consent; and they, making the offer known to others, resolved to accompany Hawkins, even if the governor should withhold his permission. Application was made to Laudonnière, who promised to return an answer within one hour. The principal men of the colony were immediately called together, who told the governor, 'all with one voice,' that he 'ought not to refuse this offer,' and that France, as it had neglected them, 'could not thinke evill of it.' The governor dissented from this conclusion. Finally the colony purchased a vessel of Hawkins for seven hundred crowns; and he, considering their necessities, as they had no sustenance but mill and water, furnished them with various important articles of food and comfort; and left them to return to France when they should get ready. By the fifteenth of August the colonists had completed their arrangements, and waited only for a wind to transport them to their native country. S.

Remedy against Ants. Accident has furnished an excellent recipe for destroying ants. A merchant, whose warehouses were infested by these destructive insects, remarked on a sudden that they had deserted one particular room; and observation convinced him that the circumstance was caused by a barrel of fish oil which had been placed there; he tried the experiment of placing some of the oil round the plants in his garden, when he found it produced the effect of driving the ants from the place in a few hours.

BALTIMORE ORIOLE, GOLDEN ROBIN, OR FIRE HANGBIRD.

We know not how we can accompany the beautiful engraving of the bird and nest, which we place before our readers, better than by quoting the following very interesting account by Mr. Nuttall, the author of a Manual of the Ornithology of the United States and of Canada, which ought to be in the possession of every individual who seeks amusement, instruction, or accurate information in relation to the subject.

These gay, lively, and brilliant strangers, leaving their hibernal retreat in South America, appear among us about the first week in May, and more than a month earlier in Louisiana, according to the observations of Audubon. They were not seen, however, in West Florida by the middle of March, although vegetation had then so far advanced, that the oaks were in leaf, and the white flowering Cornel in full blossom.

It is here that they pass the most interesting period of their lives; and their arrival is hailed as the sure harbinger of the approaching warm and mild season. Full of life and activity, these fiery sylphs are now seen vaulting and darting incessantly through the lofty boughs of our tallest trees; appearing and vanishing with restless inquietude; and flashing at quick intervals into sight, from amidst the tender waving foliage, they seem like living gems intended to decorate the verdant garment of the new-clad forest. But the gay Baltimore is neither idle nor capricious; the beautiful small beetles and other active winged insects on which he now principally feeds, are in constant motion, and require perpetual address in their capture. At first the males only arrive, but without appearing in flocks; their mates are yet behind, and their social delight is incomplete. They appear to feel this temporary bereavement, and in shrill and loud notes, they fife out their tender plaints, in quick succession, as they pry and spring through the shady boughs for their tiny and eluding prey. They also now spend much time in the apple trees, often sipping honey from the white blossoms over which they wander with peculiar delight, continually roving amidst the sweet and flowery profusion. The mellow whistled notes which they are heard to trumpet from the high branches of our tallest trees and gigantic elms, resemble, at times, *'tshippe-tshayïa too too,* and sometimes *'tshippee 'tshippee* (lispingly), *too too* (with the two last syllables loud and full). These notes are also varied by some birds so as to resemble *'tsh 'tsh 'tsheetshoo tshoo, tshoo,** also *'tsh 'tsheefā 'tsheefā 'tsheefā, tshoo,* and *'k'tŭf ā tŭf ā tŭf a tēa kĕrry* † another bird I have occasionally heard to call for hours, with some little variation, *tū, tēo tēo tēo too* in a loud, querulous, and yet almost ludicrously merry strain. At other intervals, the sensations of solitude seem to stimulate sometimes a loud and interrogatory note, echoed forth at intervals, as, *k'rry kerry?* and terminating plaintively *k'rry k'rry k'rry 'tū,* the voice falling off very slenderly in the last long syllable, which is apparently an imitation from the Cardinal Grosbeak, and the rest is derived from the Crested Titmouse whom they have already heard in concert as they passed through the warmer States. Another interrogatory strain which I heard in the spring of 1830 was precisely, *'yyp 'k'rry, 'yyp, 'yyp k'rry,* very loud and oft repeated. Another male went in his ordinary key, *tshĕrry tshĕrry, tshipee tsh'rry,* notes copied from the exhaustless stock of the Carolina Wren (also heard on his passage), but modulated to suit the fancy of our vocalist. The female likewise sings, but less agreeably than the male. One which I had abundant opportunity of observing, while busied in the toil of weaving her complicated nest, every now and then, as a relief from the drudgery in which she was solely engaged, sung, in a sort of querulous and rather plaintive strain, the strange, uncouth syllables, *'kà keà 'kōwà, keka keka,* the final tones loud and vaulting, which I have little doubt were an imitation of the discordant notes of some South American bird. For many days she continued this tune at intervals without any variation. The male, also, while seeking his food in the same tree with his mate, or while they are both attending on their unfledged brood, calls frequently in a low friendly whisper, *'twait, 'tw'it.* Indeed, all the individuals of either sex, appear pertinaciously to adhere for weeks to the same quaint syllables which they have accidentally collected.

This bird then, like the Starling, appears to have a taste for mimickry, or rather for sober imitation. A Cardinal Grosbeak happening, very unusually, to pay us a visit, his harmonious and bold whistle struck upon the ear of a Baltimore with great delight, and from that moment his ordinary notes were laid aside for *'woit 'woit teá,* and other phrases

* The first three of these notes are derived from the Summer Yellow Bird, though not its most usual tones.

† The last phrase loud and ascending, the *tea* plaintive, and the last syllable tender and echoing.

previously foreign to him for that season. I have likewise heard another individual exactly imitating the soft and somewhat plaintive *vit yu, vit yiú* of the same bird, and in the next breath the *peúi*, or call of Wilson's Thrush; also, at times the earnest song of the Robin. Indeed his variations and imitations have sometimes led me to believe that I heard several new and melodious birds, and I was only undeceived when I beheld his brilliant livery. So various, in fact, are the individual phrases chanted by this restless and lively bird, that it is scarcely possible to fix on any characteristic notes by which he may be recognised; his singular, loud, and almost plaintive tone, and a fondness for harping long on the same string, are perhaps more peculiar than any particular syllables, which he may be heard to utter. When alarmed or offended at being too closely watched or approached, they both utter an angry, rattling *tsher tsh'r*, or hiss, *tsh' tsh' tsh' tsh.* The beautiful Baltimore bird is only one of the tribe of true *Icteri*, which, except the Orchard Oriole, remain within the tropical regions, or only migrate to short distances in the rainy season. Ours wing their way even into Canada, and breed in every intermediate region to the table land of Mexico. A yellow Brazilian species of the section of this genus called *Cassicus*, according to Waterton, inhabits also Demerara, where, like our bird, he familiarly weaves his pendulous nest near the planter's house, suspending it from the drooping branches of trees, and so low that it may be readily looked into even by the incurious. Omnivorous, like the Starling, it feeds equally on insects, fruits, and seeds. It is called the Mocking-bird, and for hours together, in gratitude as it were for protection, he serenades the inhabitants with his imitative notes. His own song, though short, is sweet and melodious. But hearing perhaps the yelping of the Toucan, he drops his native strain to imitate it, or place it in ridicule by contrast. Again, he gives the cackling cries of the woodpecker, the bleating of the sheep; an interval of his own melody, then probably a puppy dog, or a Guinea fowl, receives his usual attention; and the whole of this mimickry is accompanied by antic gestures, indicative of the sport and company which these vagaries afford him. Hence we see that the mimicking talent of the Stare is inherent in this branch of the gregarious family, and our own Baltimore, in a humbler style, is no less delighted with the notes of his neighboring feathered songsters.

There is nothing more remarkable in the whole instinct of our Golden Robin, than the ingenuity displayed in the fabrication of its nest, which is, in fact, a pendulous, cylindric pouch of five to seven inches in depth, usually suspended from near the extremities of the high, drooping branches of trees (such as the elm, the pear, or apple tree, wild cherry, weeping willow, tulip tree, or button-wood). It is begun by firmly fastening natural strings of the flax of the silk-weed, or swamp-holyhock, or stout artificial threads, round two or more forked twigs, corresponding to the intended width and depth of the nest. With the same materials, willow down, or any accidental ravellings, strings, thread, sewing-silk, tow, or wool, that may be lying near the neighboring houses, or round the grafts of trees, they interweave and fabricate a sort of coarse cloth into the form intended; towards the bottom of which they place the real nest, made chiefly of lint, wiry grass, horse and cow hair; sometimes, in defect of hair, lining the interior with a mixture of slender strips of smooth vine bark, and rarely with a few feathers, the whole being of a considerable thickness, and more or less attached to the external pouch. Over the top, the leaves, as they grow out, form a verdant and agreeable canopy, defending the young from the sun and rain. There is sometimes a considerable difference in the manufacture of these nests, as well as in the materials which enter into their composition. Both sexes seem to be equally adepts at this sort of labor, and I have seen the female alone perform the whole without any assistance, and the male also complete this laborious task nearly without the aid of his consort; who, however, in general, is the principal worker. I have observed a nest made almost wholly of tow, which was laid out for the convenience of a male bird; who, with this aid, completed his labor in a very short time, and frequently sung in a very ludicrous manner, while his mouth was loaded with a mass larger than his head. So eager are they to obtain fibrous materials, that they will readily tug at, and even untie, hard knots made of tow. In Audubon's magnificent plates, a nest is represented as formed outwardly of the Long-Moss; where this abounds, of course, the labor of obtaining materials must be greatly abridged. The author likewise remarks, that the whole fabric consists almost entirely of this material, loosely interwoven, without any warm lining, a labor which our ingenious artist seems aware would be superfluous in the warm forests of the lower Mississippi. A female, which I observed attentively, carried off to her nest a piece of lampwick ten or twelve feet long. This long string, and many other shorter ones, were left hanging out for about a week before both the ends were wattled into the sides of the nest. Some other little birds, making use of similar materials, at times twitched these flowing ends, and generally brought out the busy Baltimore from her occupation in great anger.

I may perhaps claim indulgence for adding a little more on the biography of this particular bird, as a representative also of the instinct of her race. She completed the nest in about a week's time, without any aid from her mate; who, indeed, appeared but seldom in her company, and was now become nearly silent. For fibrous materials, she broke, hackled, and gathered the flax of the *Asclepias* and *Hibiscus* stalks, tearing off long strings, and flying with them to the scene of her labors. She appeared very eager and hasty in her pursuits, and collected her materials, without fear or restraint, while three men were working in the neighboring walks, and many persons visiting the garden. Her courage and perseverance were indeed truly admirable. If watched too narrowly, she saluted with her usual scolding *'tsher, 'tshrr, 'tshrr*, seeing no reason, probably, why she

should be interrupted in her indispensable occupation.

Though the males were now comparatively silent on the arrival of their busy mates, I could not help observing this female, and a second, continually vociferating, apparently in strife. At last, she was observed to attack this *second* female very fiercely, who slily intruded herself at times into the same tree where she was building. These contests were angry and often repeated. To account for this animosity, I now recollected, that *two* fine males had been killed in our vicinity; and I therefore concluded the intruder to be left without a mate; yet she had gained the affection of the consort of the busy female, and thus the cause of this jealous quarrel became apparent. Having obtained the confidence of her faithless paramour, the *second* female began preparing to weave a nest in an adjoining elm, by tying together certain pendant twigs as a foundation. The male now associated chiefly with the intruder, whom he even assisted in her labor, yet did not wholly forget his first partner, who called on him one evening in a low affectionate tone, which was answered in the same strain. While they were thus engaged in friendly whispers, suddenly appeared the rival, and a violent rencontre ensued, so that one of the females appeared to be greatly agitated, and fluttered with spreading wings as if considerably hurt. The male, though prudently neutral in the contest, showed his culpable partiality by flying off with his paramour; and for the rest of the evening left the tree to his pugnacious consort. Cares of another kind, more imperious and tender, at length reconciled, or at least, terminated these disputes with the jealous females; and by the aid of the neighboring bachelors, who are never wanting among these and other birds, peace, at length, was completely restored, by the restitution of the quiet and happy condition of monogamy. We therefore perceive, that though the quarrels of jealousy are usually confined to the bosoms of the males among birds, yet under peculiar circumstances the females are far from passive; and though in the spring of 1830 I witnessed many contests with the other sex, the country teeming with these beautiful birds, yet the war was only threatening and predatory, compared with the close combats of these of the weaker sex.

The eggs of this species are usually four or five, white, with a faint, indistinct tint of bluish, and marked, chiefly at the greater end, though sometimes scatteringly, with straggling, serpentine, dark brown lines and spots, and fainter hair streaks, looking sometimes almost like real hair, and occasionally lined only, and without the spots. The period of incubation is fourteen days in Louisiana, according to Audubon; they frequently raise two broods in the season, arriving in that country with the opening of the early spring. Here they raise but a single brood, whose long and tedious support in their lofty cradle absorbs their whole attention; and at this interesting period, they seem, as it were, to live only to protect, cherish, and educate their young. The first and general cry which the infant brood utter while yet in the nest, and nearly able to take wing, as well as for some days after, is a kind of *Tē-did, tē-did, tē-did, kai-tē-ē-did,* or *'tē 'tē 'tē 'tē 'tē 'ti 't-did,* which becomes clamorous as the parents approach them with food. They soon also acquire the scolding rattle and short notes which they probably hear around them, such as *Peet weet*, the cry of the spotted sandpiper, and others, and long continue to be assiduously fed and guarded by their very affectionate and devoted parents. Unfortunately, this contrivance of instinct to secure the airy nest from the depredations of thieving and rapacious monkeys and other animals which frequent trees in warm or mild climates, is, also, occasionally attended with serious accidents, when the young escape before obtaining the perfect use of their wings. They cling, however, with great tenacity, either to the nest or neighboring twigs; yet sometimes they fall to the ground; and, if not killed on the spot, soon become a prey to numerous enemies. On such occasions it is painful to hear the plaints and wailing cries of the parents. And when real danger offers, the generous and brilliant male, though much the less querulous of the two, steps in to save his brood at every hazard; and I have known one so bold in this hopeless defence, as to suffer himself to be killed, by a near approach with a stick, rather than desert the offspring, in whose existence and safety his life seemed absorbed. Sometimes, after this misfortune, or when the fell cat has devoured the helpless brood, day after day the disconsolate parents continue to wail their irretrievable loss. They almost forget to eat amidst their distress, and after leaving the unhappy neighborhood of their bereavement and fruitless toil, they still come, at intervals, to visit and lament over the fatal spot, as if spellbound by despair. If the season be not too far advanced, the loss of their eggs is generally soon repaired by constructing a second nest, in which, however, the eggs are fewer.

The Baltimore bird, though naturally shy and suspicious, probably for greater security from more dangerous enemies, generally chooses for his nest the largest and tallest spreading trees near farmhouses, and along frequented lanes and roads; and trusting to the inaccessibleness of his ingenious mansion, he works fearlessly, and scarcely studies concealment. But, as soon as the young are hatched, here, towards the close of June, the whole family begin to leave the immediate neighborhood of their cares, flit through the woods, a shy, roving, and nearly silent train; and when ready for the distant journey before them, about the end of August or beginning of September, the whole at once disappear; and probably arrive, as with us, amidst the forests of South America, in a scattered flock, and continue, like starlings, to pass the winter in celibacy, wholly engaged in gleaning a quiet subsistence until the return of spring. Then, incited by instinct to prepare for a more powerful passion, they again wing their way to the regions of the north; where, but for this wonderful providential instinct of migration, the whole race would perish in a single season. As the sexes usually arrive in different flocks, it is evident, that the conjugal tie ceases at the period of migration,

and the choice of mates is renewed with the season; during which the males carry on their jealous disputes with much obstinacy. From the similarity in the circumstances of mating among most other migratory birds, it would appear that they obey the same law, depending on the transitory nature of the sexual feeling, which in autumn is nearly annihilated.

That our Oriole is not familiar with us, independent of the all powerful natural impulse which he obeys, is sufficiently obvious when he nests in the woods. Two of these solitary and retiring pairs had this summer, contrary to their usual habits, taken up their abode in the lofty branches of a gigantic button-wood in the forest. As soon as we appeared, they took the alarm, and remained uneasy and irritable until we were wholly out of sight. Others, again, visit the heart of the populous city, and pour forth their wild and plaintive songs from the trees which decorate the streets and gardens, amid the din of the passing crowd, and the tumult of incessant and noisy occupations. Audubon remarks, that their migrations are performed singly, and during the day, and that they proceed high, and fly straight and continuous.

The food of the Baltimore appears to be small caterpillars, sometimes those of the apple-trees, some uncommon kinds of beetles, cimices, and small flies, like a species of cynips. Occasionally I have seen an individual collecting *Cicindeli* by the sides of sandy and gravelly roads. They feed their young usually with soft caterpillars, which they swallow, and disgorge on arriving at the nest; and in this necessary toil both sexes assiduously unite. They seldom molest any of the fruits of our gardens, except a few cherries and mulberries, and are the most harmless, useful, beautiful, and common birds of the country. They are, however, accused of sometimes accompanying their young to the garden peas, which they devour while small and green, and, being now partly gregarious, the damage they commit is at times rendered visible. Occasionally they are seen in cages, being chiefly fed on soaked bread, or meal and water; they appear also fond of cherries, strawberries, currants, raisins, and figs, so that we may justly consider them, like the Cassicans and Starlings, as omnivorous, though in a less degree. They sing, and appear lively in confinement or domestication, and become very docile, playful, and friendly, even going in and out of the house, and sometimes alighting at a whistle on the hand of their protector. The young, for a while, require to be fed on animal food alone, and the most suitable appears to be fresh minced meat, soaked in new milk. In this way they may be easily raised almost from the first hatching; but at this time vegetable substances appear to afford them no kind of nutrition, and at all times they will thrive better, if indulged with a little animal food or insects, as well as hard-boiled eggs.

The Baltimore bird is seven inches in length; the bill bluish black. Exterior edges of the greater wing-coverts, edges of the secondaries, and part of those of the primaries, white. The tail-feathers under the coverts, orange; the two middle ones from thence to the tips, black; the next five on each side black near the covert, and orange towards the extremities. Legs and feet lead-color. The iris, hazel. The white on the wing-coverts in the *female* is yellowish; the under parts, not so brilliant an orange, approaching scarlet on the breast, are, in this sex, much duller; the back also of a dull black, and each feather skirted with olive yellow. The wing-feathers of a deep dirty brown. The tail olive yellow; but in others, according to age, the two middle feathers become partially or wholly black. Some of the *males* which arrive in the spring have the tail wholly yellow; at times, only the two middle feathers black, and frequently the black on the back is still skirted with orange, and the tail tipped with the same color. It would therefore appear that two or three seasons are requisite to complete the plumage of this brilliant bird. The male moults, before his departure, into the same brilliant dress in which he arrives.

Signers of the Declaration of Independence. Of the fifty-six signers of the Declaration of Independence, it is stated that nine were born in Massachusetts; eight in Virginia; five in Maryland; four in Connecticut; four in New Jersey; four in Pennsylvania; four in South Carolina; three in New York; three in Delaware; two in Rhode Island; one in Maine; three in Ireland; two in England; two in Scotland; and one in Wales.

Twenty-one were attornies; ten merchants; four physicians; three farmers; one clergyman; one printer; and sixteen were men of fortune.

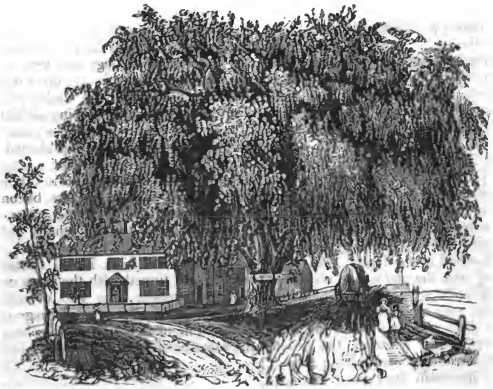
Eight were graduates of Harvard College; four of Yale; three of New Jersey; two of Philadelphia; two of William and Mary; three of Cambridge, England; two of Edinburgh; and one of St. Omers.

At the times of their deaths five were over ninety years of age; seven between eighty and ninety; eleven between seventy and eighty; twelve between sixty and seventy; eleven between fifty and sixty; seven between forty and fifty; one died at the age of twenty-seven, and the age of two is uncertain.

At the time of signing the Declaration, the average age of the members was forty-four years. They lived to the average age of more than sixty-five years and ten months. The youngest member was Edward Rutledge of South Carolina, who was in his twenty-seventh year. He lived to the age of fifty-one. The next youngest member was Thomas Lynch, of the same State, who was also in his twenty-seventh year. He was cast away at sea in the fall of 1776.

Benjamin Franklin was the oldest member. He was in his seventy-first year when he signed the Declaration. He lived to 1790, and survived sixteen of his younger brethren. Stephen Hopkins, of Rhode Island, the next oldest member, was born in 1707, and died in 1778.

Charles Carroll attained the greatest age, dying in his ninety-sixth year. William Ellery of Rhode Island, died in his ninety-third year, and John Adams in his ninety-first.



The Washington Elm, in Cambridge.

THE WASHINGTON ELM.

The Washington Elm stands in the westerly corner of the large common near Harvard University, in Cambridge, Massachusetts; and is probably one of the trees that belonged to the native forest. Amid the changes which have taken place in the world, and particularly in America and New England, it has stood like a watchman; and if it could speak, it would be an interesting chronicler of events. The early settlers of this country had hardly finished their rude loghouses before they proposed to make the village in which it stands the metropolis of the country; and but few years elapsed before they laid the foundation of Harvard University so near it that it may almost be shaded by its branches. Not far from it was the spot where the public town meetings were held; and also the tree under which the Indian council fires were lighted, more than two hundred years ago. When the drum was used in Cambridge, instead of the bell, to summon the congregation to the place of worship, or to give warning of a savage enemy, the sound floated throughout its trailing limbs; and when the officers of the college discharged the duty of inflicting corporal punishment on young men with their own hands, who knows but their lugubrious lamentations may have mingled with the breezes that disturbed its foliage? Of how many college sports and tricks might it tell; such deeds, too, as no one who had not been educated in the halls of Old Harvard would ever have dreamed of? Among the graver subjects of which it might make report are the lessons of truth and piety which fell from the lips of Whitfield, when he stood in its shade and moved a vast multitude by his eloquence. And subsequently, it seems, it has been heralding war and liberty; for the revolutionary soldiers who stood shoulder to shoulder,—blessings be on their heads,—tell us that when Washington arrived at Cambridge, he drew his sword as commander-in-chief of the American army, for the first time, beneath its boughs, and resolved within himself that it should never be sheathed till the liberties of his country were established. Glorious old tree, that hast stood in sight of the smoke of Lexington and Bunker's Hill battles, and weathered the storms of many generations,—worthy of reverence. Though, in the spirit of modern improvement, guideboards may be nailed to thy trunk, thou pointest to the past and to the future. All around are scattered memorials of what has been. Generations of men have died and been buried, and soldiers of the revolution sleep near thee. Thou lookest down upon monuments in the churchyard, robbed of their leaden armorial bearings that they might be converted into musket balls in the day of our national poverty and struggle; and the old spikes still fastened into the beams of Massachusetts Hall tell of suspended hammocks where the weary soldier took his rest. Across the river, where one Blackstone lived, and where Governor Winthrop took up his residence, because he found a good spring of water there, the forest has been cut away, the Indian wigwam has disappeared, and a city grown up, containing more than 80,000 inhabitants, whose sails whiten every sea, whose merchants are princes, and whose traffickers are thy honorable of the earth. May no unkind hand mar the last tree of the native forest. Though it may have stood century after century, like a sentinel on duty, defying the lightning and the storm, still let it stand, an interesting and sacred memorial of the past and the present, and continue to be associated, for many years to come, with the history of our country. And let the illustrious name which it bears, and which it derives from one of the most important events in the life of the Father of his country, preserve it to remind the coming generations of his invaluable services and labors.

CORPORAL PUNISHMENT IN HARVARD UNIVERSITY.

In these modern days it is interesting occasionally to look back and see the kind of discipline which was adopted by our pious forefathers in bringing rebellious sons in our venerable University into obedience to the higher powers. A common mode of endeavoring to enforce this obedience was by corporal punishment. Many instances are on record; but one of the most striking is mentioned in Sewall's manuscript diary. 'June 15, 1674, Thomas Sargeant was examined by the Corporation finally. The advice of Mr. Danforth, Mr. Stoughton, Mr. Thacher, Mr. Mather (the present) was taken. This was his sentence:

'That being convicted of speaking blasphemous words concerning the H. G., he should be therefore publicly whipped before all the scholars.

'2. That he should be suspended as to taking his degree of Bachelor. (This sentence read before him twice at the President's, before the Committee, and in the Library, before execution.)

'3. Sit alone by himself in the Hall uncovered at meals, during the pleasure of the President and Fellows, and be in all things obedient, doing what exercise was appointed him by the President, or else be finally expelled the College. The first was presently put in execution in the Library (Mr. Danforth, Jr., being present) before the Scholars. He kneeled down, and the instrument, Goodman Hely, attended the President's word as to the performance of his part of the work. Prayer was had before and after by the President. July 1, 1674.'

We are not sure that there may not occasionally be found a student at the present day, whose recklessness and disregard of high principle and law would be remedied better by some severer measures than the advocates of the abolition of all corporal punishment recommend. But such exhibitions as we have spoken of, with prayer by the President before and after the whipping, are not calculated to give us very exalted ideas of the propriety of the conduct of our ancestors, or of the principles to which they appealed in enforcing obedience. Corporal punishment, however, continued to be inflicted till nearly the middle of the eighteenth century; and as late as the year 1733, a tutor was prosecuted for it. At the revision of the laws, in 1734, the following article was introduced; 'Notwithstanding the preceding pecuniary mulcts, it shall be lawful for the President, Tutors, and Professors, to punish undergraduates by Boxing, when they shall judge the nature or circumstances of the offence call for it.' Corporal punishment became unpopular, however, and began to be discontinued not long after this time. Fines succeeded; and, in our day, we well recollect the interest and merriment felt, when the quarter bills were issued, to see how many 'lines of poetry,' *alias* fines, were added by way of appendix. Fines have been abolished, and the scale of moral demerit substituted. And so far is public sentiment advancing, that there is a call or a clamor on the part of many for the entire abolition of all scales of merit as to scholarship.

ANTIQUITIES OF NORTH AMERICA.

BY JOHN STARK, ESQUIRE, OF GALENA, ILLINOIS.

In the history of our country every thing relating to the *earliest* inhabitants must be interesting, not only to the professed antiquary but to the general reader. There is much evidence to show, that the postdiluvian earth was originally but one continent—that this country, America, was peopled from Central Asia, before the dismemberment of that single continent—that the people brought with them the manners, arts, and civilizations of Central Asia; perhaps the very manners, arts, arms, and modes of warfare described in the Homeric poems; and that, some time after America was separated from the other continent, immense hordes from the north of Asia crossed Behring's Straits, and gradually took possession of the country.

Before these barbarian invaders the inhabitants retired south into Mexico, carrying with them the arts and civilization that afterward so astonished their more modern invaders from Spain.

It is a fact well known in history, that Cortes found in Mexico arms and utensils such as are known to have been used in Asia Minor, and such as have been found nowhere else. And the discoveries recently made at Palenqué and Vehemel, plainly point to Central Asia as the country of their origin.

That the Indians found here by the discoverers were not the original inhabitants, has, we believe, never been disputed; on the contrary, it has ever been acknowledged that there was a distinct race anterior to them. But whence came this race, whither they went, and what monuments they have left here, are questions that have afforded matter for much speculation. It has generally been believed that the mounds in the western country are the work of their hands, notwithstanding that some ingenious gentlemen have lately argued, *perhaps* to their *own* conviction, that the mounds are the direct work of nature, and raised by the action of water. But as to the mounds, we leave the question where we find it—the old race have left other monuments.

The Indians found here by the discoverers, in fact never pretended to be the *original* inhabitants; but had a tradition, that their forefathers came into the country across the sea—probably Behring's Straits—that they found the country inhabited—that with the inhabitants they waged a long war, and ultimately drove them south into the sea. Such was the tradition; the fact probably was, that the conquered people retired to Mexico.

The Mexicans also had a tradition strongly corroborative of this—that their forefathers lived at the north for many ages, and then gradually emigrated south.

These traditions alone, without any other evidence, afford ground for a strong presumption that the territory, now the United States, was inhabited by the race that afterwards peopled Mexico. But the evidence does not stop here; there are other facts that go far to reduce the presumption to a certainty.

The Mexicans worked the metals for various purposes of use and ornament; the Indians found

here by the discoverers never used the metals in any way; but wood, stone, shells, &c., supplied them with weapons and ornaments. Hatchets, swords, and arrow-heads of *brass* have been found in various parts of the United States, many of them in good preservation. These, although rude in form and design, are yet skilfully made; but with that pains-taking and laborious skill that ever marked the infancy of the arts.

But it may be asked, why are not these relics more frequently discovered, if it be true that a whole nation, to whom the manufacture of them was known, were once transient dwellers in this land? We think the wonder should rather be, how so many of them have been preserved. The preservation of the few that have been found must undoubtedly be ascribed to the nature of the soil at the time of their deposit. Since in some soils, and under some circumstances, they would be preserved by earthly particles, uniting themselves with the salts of the brass in the first stages of oxydation, and thus forming a sort of petrified incrustation that would prevent decay.

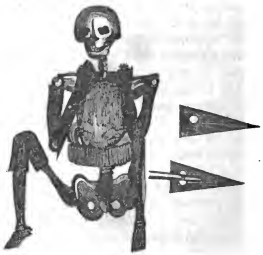
But a discussion of these theories is not intended, since it would necessarily involve speculations too prolix and discursive for the limits of this paper; the main object of which is, to give a description of what we consider the most interesting relic of antiquity ever discovered in North America—the remains of a human body, armed with a breast-plate, a species of mail, and arrows of *brass*; which remains we suppose to have belonged either to one of the race who inhabited this country for a time *anterior* to the so called Aborigines, and afterwards settled in Mexico or Guatamala, *or* to one of the crew of some Phœnician vessel, that, blown out of her course, thus discovered the western world long before the Christian era.

These remains were found in the town of Fall River, in Bristol county, Massachusetts, about three years since.

In digging down a hill near the village, a large mass of earth slid off, leaving in the bank, and partially uncovered, a human skull, which on examination was found to belong to a body buried in a sitting posture; the head being about one foot below what had been for many years the surface of the ground. The surrounding earth was carefully removed, and the body found to be enveloped in a covering of coarse bark of a dark color. Within this envelope were found the remains of another of coarse cloth, made of fine bark, and about the texture of a Manilla coffee-bag. On the breast was a plate of brass, thirteen inches long, six broad at the upper end and five at the lower. This plate appears to have been cast, and is from one eighth to three thirty-seconds of an inch in thickness. It is so much corroded, that whether or not any thing was engraved upon it has not yet been ascertained. It is oval in form, the edges being irregular, apparently made so by corrosion.

Below the breast-plate, and entirely encircling the body, was a belt composed of brass tubes, each four and a half inches in length, and three sixteenths of an inch in diameter, arranged longitudinally and close together; the length of a tube being the width of the belt. The tubes are of thin brass, cast upon hollow reeds, and were fastened together by pieces of sinew. This belt was so placed as to protect the lower parts of the body below the breast-plate. The arrows are of brass, thin, flat, and triangular in shape, with a round hole cut through near the base. The shaft was fastened to the head by inserting the latter in an opening at the end of the wood, and then tying it with a sinew through the round hole,—a mode of constructing the weapon never practised by the Indians, not even with their arrows of thin shell. Parts of the shaft still remain on some of them. When first discovered the arrows were in a sort of quiver of bark, which fell in pieces when exposed to the air.

The following sketch will give our readers an idea of the posture of the figure and the position of the armor. When the remains were discovered the arms were brought rather closer to the body than in the engraving. The arrows were near the right knee.



The skull is much decayed, but the teeth are sound, and apparently those of a young man. The pelvis is much decayed, and the smaller bones of the lower extremities are gone.

The integuments of the right knee, for four or five inches above and below, are in good preservation, apparently the size and shape of life, although quite black.

Considerable flesh is still preserved on the hands and arms, but none on the shoulders and elbows. On the back, under the belt, and for two inches above and below, the skin and flesh are in good preservation, and have the appearance of being tanned. The chest is much compressed, but the upper viscera are probably entire. The arms are bent up, not crossed; so that the hands turned inwards touch the shoulders. The stature is about five and a half feet. Much of the exterior envelope was decayed, and the inner one appeared to be preserved only where it had been in contact with the brass.

The preservation of this body may be the result of some embalming process; and this hypothesis is strengthened by the fact, that the skin has the appearance of having been tanned; or it may be the accidental result of the action of the salts of

the brass during oxydation; and this latter hypothesis is supported by the fact, that the skin and flesh have been preserved only where they have been in contact with, or quite near, the brass; or we may account for the preservation of the whole by supposing the presence of *saltpetre* in the soil at the time of the deposit. In either way, the preservation of the remains is fully accounted for, and upon known chemical principles.

That the body was not one of the Indians, we think needs no argument. We have seen some of the drawings taken from the sculptures found at Palenqué, and in those the figures are represented with breast-plates, although smaller than the plate found at Fall River. On the figures at Palenqué the bracelets and anklets appear to be of a manufacture precisely similar to the belt of tubes just described. These figures also have helmets precisely answering the description of the helmet of Hector in Homer.

If the body found at Fall River be one of the Asiatic race, who transiently settled in Central North America, and afterward went to Mexico and founded those cities, in exploring the ruins of which such astonishing discoveries have recently been made; then we may well suppose also that it is one of the race whose exploits with 'brazen spears' have, although without a date and almost without a certain name, been immortalized by the Father of Poetry; and who, probably, in still earlier times, constructed the *Cloacæ* under *ancient* Rome, which have been absurdly enough ascribed to one of the Tarquins, in whose time the whole population of Rome would have been insufficient for a work, that would, moreover, have been useless when finished. Of this Great Race, who founded cities and empires in their eastward march, and are finally lost in South America, the Romans seem to have had a glimmering tradition in the story of Evander.

But we rather incline to the belief that the remains found at Fall River belonged to one of the crew of a Phœnician vessel.

The spot where they were found is on the seacoast, and in the immediate neighborhood of 'Dighton Rock,' famed for its hieroglyphic inscription, of which no sufficient explanation has yet been given; and near which rock brazen vessels have been found. If this latter hypothesis be adopted, a part of it is, that these mariners—the unwilling and unfortunate discoverers of a new world—lived some time after they landed; and, having written their names, perhaps their epitaphs, upon the rock at Dighton, died, and were buried by the natives.

COL. CRAWFORD.—GIRTY.—INDIAN DEATH-TORTURE.

Colonel William Crawford, alluded to in the following account, was a captain in General Forbes's campaign against the French and Indians, in the year 1758. He settled on the Youghiogany river, and in Washington's Writings we find a letter directed to him at that place in the year 1767. In May, 1778, he took command of the regiment at Pittsburgh, at which time he is spoken highly of by Washington in a letter to the Board of War. In the summer of 1782, he commanded an expedition into the Ohio country against the Indians, where, after a hard fought battle, he was taken prisoner and tortured to death in the most cruel and shocking manner, which is here described.

Simon Girty, of whom mention is made, was a white man who, with one McKee, had abandoned his own countrymen from disappointment as to military promotion, under Pennsylvania, as it is said, and had united with the British and Indians. Flint speaks of him as a wretch of most infamous notoriety in those times, and as a more successful instigator of Indian assault and massacre than any one on record. Scarcely a tortured captive escaped from the northern Indians, who could not tell the share which this villain had in his sufferings —no burning or murder of prisoners, at which he had not assisted by his presence or counsels. Yet Simon Girty, like the Indians among whom he lived, sometimes took the freak of kindness, nobody could divine why, and he once or twice saved an unhappy captive from being roasted alive. He was consulted by the Indians as an oracle, lived in plenty, smoked his pipe, and drank off his whisky in his log palace. He was seen abroad clad in a ruffled shirt, a red and blue uniform, with pantaloons and gaiters to match. He was belted with dirks and pistols, and wore a watch with enormous length of chain, and most glaring ornaments, all probably the spoils of murder. So habited, says Flint, he strutted, in the enormity of his cruelty, in view of the ill-fated captives of the Indians, like the peacock spreading his morning plumage. There is little doubt that his capricious acts of saving the few that were spared through his intercession, were modified results of vanity; and that they were spared to make a display of his power, and the extent of his influence among the Indians. The source from which the two following accounts of Indian death-torture are derived maintains that they are perfectly authentic. The writer says some recitals of this kind are, I suppose, either fabulous or greatly exaggerated, but these have good authority.

The first is copied from the Notes of the Settlement and Indian Wars of the western Pennsylvania and Virginia borders, by the late Rev. J. Doddridge, of the Protestant Episcopal Church, an inhabitant of that part of the country, now our own, and as flourishing as it is peaceable.

Preparations had been made for the execution of Colonel Crawford, by setting a post about fifteen feet high in the ground, and making a large fire of hickory poles about six yards from it. About half a mile from the place of execution, the remaining five of the nine prisoners were tomahawked and scalped by a number of squaws and boys.

When arrived at the fire, the Colonel was stripped and ordered to sit down. He was then severely beaten with sticks and afterwards tied to the post by a rope of such length as to allow him to walk two or three times round it, and then back again. This done, they began the torture by discharging a

great number of loads of powder upon him, from head to foot; after which they began to apply the burning ends of the hickory poles; the squaws, in the mean time, throwing hot coals and hot ashes on his body, so that in a little time he had nothing but coals to walk on. In the midst of his sufferings, he begged of the noted Simon Girty to take pity on him and shoot him. Girty tauntingly answered, 'You see I have no gun; I cannot shoot,' and laughed heartily at the scene. After suffering about three hours, he became faint, and fell down on his face; an Indian then scalped him, and an old squaw threw a quantity of burning coals on the place from which the scalp was taken. After this, he rose and walked round the post a little, but did not live much longer. After he expired, his body was thrown into the fire and consumed to ashes. Colonel Crawford's son and son-in-law were executed at the Shawanees town.

My other extract is from Cox's Adventures on the Columbia river. It records the ferocity of this race, not against their white oppressors, but of savage against savage; and it shows the wonderful stoicism, it might be called apathy, but that it is mingled with so much pride—yet *that*, it may be said, is the philosophy of stoicism—the wonderful stoicism with which the aboriginal occupants of our continent can endure torture. If knight-errants, and crusaders, and other very brave adventurers have courted danger as a mistress, it may as justly be said that the American Indian knows how to court torture, when once his case is hopeless.

Having been informed that the Flatheads were about burning one of their prisoners to death, I went to the camp to witness the spectacle. The man was tied to a tree; after which they heated an old barrel of a gun until it became red hot, with which they burned him on the legs, thighs, neck, cheeks, and belly. They then commenced cutting the flesh from about the nails, which they pulled out, and next separated the fingers from the hand, joint by joint. During the performance of these cruelties, the wretched captive never winced, and, instead of suing for mercy, he added fresh stimulants to their barbarous ingenuity, by the most irritating reproaches, part of which our interpreter translated as follows.

'My heart is strong. You do not hurt me; you cannot hurt me. You are fools. You do not know how to torture. Try it again. I don't feel any pain yet. We torture your relations a great deal better, because we make them cry like little children. You are not brave; you have small hearts, and you are always afraid to fight.' Then addressing one in particular, he said, 'It was by my arrow that you lost your eye;' upon which the Flathead darted at him, and with a knife in a moment scooped out one of his eyes; at the same time cutting the bridge of his nose nearly in two. This did not stop him; with the remaining eye he looked sternly at another, and said, 'I killed your brother, and scalped your old fool of a father.' The warrior to whom this was addressed instantly sprang at him, and separated the scalp from his head. He was about plunging a knife into his heart, and then the chief told him to desist. The raw skull, bloody socket, and mutilated nose now presented a horrible appearance, but by no means changed his tone of defiance. 'It was I,' said he to the chief, 'that made your wife a prisoner last fall; we put out her eyes; we tore out her tongue; we treated her like a dog.'

The chieftain became incensed the moment his wife was mentioned; he seized his gun, and before the last sentence was ended, a ball from it passed through the brave fellow's heart, and terminated his frightful sufferings.

'Tis a horrible narrative! It is not my purpose, however, to enter into any moralizing on the subject. Such recitals carry their improvement along with them. How excellent is the religion which 'makes us to differ' from these savages—how much do these savages need that religion! Yet how sadly do policy and many worse motives cut the most of them off from even the hope of 'seeing things which we see!'

For the American Magazine.

THE EGYPTIAN LOTUS.

At the approach of a storm the Egyptian Lotus is said to hide itself beneath the wave.

There is a flower which lifts its head
Above the wave when sunbeams smile;
But when the tempest's wail is heard,
It quivers like a wounded bird,
And lays its timid head to rest
Beneath the billows' sheltering breast.

Father—our souls are like that flower,
Too prone the smiles of earth to wear;
Thy voice of love awakes the storm,
Our fondest hopes are overthrown,
And, as the lotus to the sea,
We bend, confiding *all* to thee!

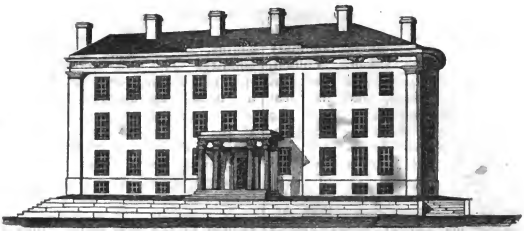
That flower, when the blast is o'er,
Will lift its tear-bathed head again;
And we, who wounded spirits bear
In meekness till life's storms are o'er,
Shall rise the *brighter* from our wo,
A Father's *sweetest smile* to know.

S.

EPITAPH.

The following curious and quaint epitaph is inscribed on the tomb-stone of one Margaret Scott, who died in the town of Dalkeith, in Scotland, February 9th, 1738.

Stop, Passenger, until my Life you read:
The Living may get Knowlege by the Dead.
Five times five Years I liv'd a Virgin's Life:
Ten times five Years I was a virtuous Wife:
Ten times five Years I liv'd a widow chaste;
Now, weary'd of this mortal Life, I rest.
Between my Cradle and my Grave have been
Eight mighty Kings of *Scotland*, and a Queen.
Four times five Years the Commonwealth I saw;
Ten times the Subjects rose against the Law.
Twice did I see old Prelacy pull'd down;
And twice the Cloak was humbled by the Gown.
An end of *Stuart's* Race I saw: Nay, more!
My native Country sold for *English* Ore.
Such Desolations in my Life have been,
I have an end of all Perfection seen.



Bangor House, Bangor, Maine.

THE BANGOR HOUSE.

This splendid edifice was erected in 1833, and completed in 1834. It is the largest establishment of the kind in the State, and its erection speaks well for the enterprising spirit of the Bangoreans. The above engraving represents the north-east front on Union street, and the westerly wing on Main street.

The front presents a magnificent appearance, showing three large stories, and an attic in the rear of the ornamental work near the roof. This front is one hundred and twelve feet in length, and has connected therewith two wings of a greater number of stories, each of which is ninety-two feet in length. The main entrance is surrounded by a large and elegant portico of wood, in imitation of stone. You there enter through a spacious entry over a short flight of stairs the promenade, which extends through the building, parallel with the front. Directly in front of these stairs is a commodious bar-room, on each side of which are convenient rooms for porters, &c., as also an egress to the piazza, extending around an area formed by the front, wings, and out-buildings. As you turn to the right, after entering the promenade, you first find the gentlemens' parlor, and contiguous thereto the ladies' drawing-room. Connected with the latter is a convenient dining-room for the ladies; and still farther on, in the westerly wing, are two sets of smaller parlors, one on each side of another promenade, extending through the wing, each of which has two sleeping-rooms contiguous. Turning to the left from the main entrance, you find the smoking-room, and still further on, a large reading-room. In the eastern wing, on the same floor, is a dining-hall, twenty-seven feet by fifty feet, and connected therewith are convenient rooms for the reception of the deposits, not otherwise removed from the tables. This is the first story above the basement.

You can now enter the second story by either of four flights of winding stairs, two of which rise from the extremity of each wing, and two from that of the main building. Ascending by those at the extremity of the east wing, you enter another hall of the same size with the dining-hall, with folding doors in the centre, which may be used for balls, public meetings, or large private levees. Passing through this hall, you are again in the main promenade, on the front side of which, over the main entrance from without, is a beautiful private parlor, with a sleeping-room on either side, leading out of the same. In the front corners are other beautiful parlors, with a convenient sleeping-room for each. The second story of the westerly wing has two sets of parlors and sleeping-rooms similar to those in the first story. Ascending into the third story of the same wing, you find eleven convenient sleeping-rooms; and passing into the main building again, parlors and bed-rooms corresponding with those in the second story. In the east wing the halls before spoken of occupy what is equal to three stories of the west wing. In this wing, in another story, are fourteen sleeping-rooms; and in the attic, corresponding with this story, thirteen more. In the westerly wing are eleven chambers, all of which, as well as the other rooms, are accessible from the large entries, without passing through others. Every room, including those in the attic, has fire-places, and almost every one a coal grate set in the same.

In the basement, under the dining-hall, the kitchen department is a spacious establishment, where things are served up by the aid of heat, steam, and smoke, in the best manner. There are also in the basement a parlor and five sleeping-rooms for the family of the host and domestics, five bathing-rooms, and two rooms for washing and ironing, a large wine cellar, and a store-room.

Every part of this extensive establishment is fitted up with furniture and carpeting in the best style. The workmanship and materials of the house are of the best kind, no pains having been spared to make it truly elegant. The whole cost, including furniture, amounted to near one hundred and twenty-five thousand dollars. It is at present closed, but is being placed in order for a new tenant. During the first season after its opening, in January, 1835, many persons were frequently obliged to seek accommodations elsewhere, so great was the press of company. It was not the expectation of the proprietors to receive or derive a profit from their establishment. The benefits to be derived were to be experienced by the citizens at large, and can easily be seen by all those who may visit Bangor.

OBERLIN, STOUBER, AND WALDBACH.

In a very wild, romantic, and mountainous canton of Alsace, the Ban de la Roche, hidden in the mountains of the German boundary of France, are five obscure villages, Foudai, Belmont, Waldbach, Bellefosse, and Zolbach. Waldbach, the central village, and the seat of the church and parsonage of one of the most interesting men of the present generation, stands on the acclivity of the Champ de Feu, a mountain which rises three thousand six hundred feet above the sea, and is supposed to be of volcanic origin. In the year 1750 the people were on the confines of primitive barbarism, when M. Stouber commenced his clerical labors among them. In the exploratory examination which he made of his charge, his first inquiries were directed to the institutions of education. Desiring to be shown the principal school-house, he was conducted into a miserable cottage, where a number of children were crowded together without any occupation, and in so wild and noisy a state, that it was with some difficulty he could gain any reply to his inquiries for the master. 'There he is,' said one of them, pointing to a withered old man, who lay on a little bed in one corner of the apartment. 'Are you the schoolmaster, my good friend?' 'Yes, sir.' 'And what do you teach the children?' 'Nothing, sir.' 'Nothing!—how is that?' 'Because,' replied the old man, with characteristic simplicity, 'I know nothing myself.' 'Why then were you instituted schoolmaster?' 'Why, sir, I had been taking care of the Waldbach pigs for a great number of years, and when I got too old and infirm for that employment, they sent me here to take care of the children.' The masters in the other villages had no advantage over this veteran, except in youth, and when Stouber endeavored to persuade some of the better informed young men to undertake the task, he found that the office had become so degraded in the public estimation, that there was no prospect of success. He compiled a spelling-book, and at length adopted the expedient of abolishing the vulgar title of schoolmaster, and a number at once consented to act as *Messieurs les Regents*. Teachers and a suitable building being provided, the popular prejudice was excited against the innovation, by a dislike of its expensiveness, and the fear of not a few, that their children were to be submitted to some occult mode of acquiring knowledge; of which they thought they discovered alarming indications and heresy in the detached letters and syllables, used by the abecedarians. Stouber's success, however, was such that the old people, finding their children able to read any book, in consequence of their lessons, came forward and desired instruction for themselves. He left them before this object was entirely accomplished, having accepted the appointment to a church in Strasbourg, in 1767, and they were in danger of relapsing into their former darkness.

Nor was their condition in other respects less deplorable. Their houses were sunk in the sides of the mountains, were damp and therefore unhealthy, and afforded but a miserable shelter. They subsisted on potatoes chiefly, and for these they had no cellars, which in winter might preserve them from the frost. There were neither masons, smiths, joiners, glaziers, nor wheelwrights in the country. The various domestic manufactures, as spinning, knitting, weaving, were unknown. Having been long destitute of religious institutions their moral habits were debased, and they were almost as wild in their manners as barbarians.

When Stouber accepted his appointment at Strasbourg, he was succeeded by John Frederic Oberlin. This man was born at Strasbourg, on the last day of August, 1740. He manifested an early inclination to a military life, but readily yielded to the wish of his father that he should embrace a learned profession. He studied theology at Strasbourg, and was ordained as a minister, though he did not undertake any parochial charge, but served seven years as tutor in the family of a distinguished surgeon, where he gained medical knowledge, which was subsequently of great service to him. In 1766, he accepted a chaplainship in a French regiment, which M. Stouber prevailed on him to resign; and he entered on his residence at Waldbach in March, 1767, being at that time in the twenty-seventh year of his age. The parsonage house which he occupied had a court yard in front, and a good garden behind, and stood in a delightful situation, very near the church, being surrounded by steep dells covered with wood, and rugged mountains, the tops and sides of which were partially covered with pines and a few other straggling trees. The first glance which he threw over the mountains convinced him that he had no ordinary difficulties to encounter, or labors to perform, and he immediately applied himself to the difficult task of ameliorating the condition of the people committed to his charge. To this end he perceived it to be first necessary to open some communication between them and other districts. The roads, if such they could be called, by which only they could reach the highway, were, most of the year, absolutely impassable, and, even in summer, were never used but on some extremely urgent occasion. The good pastor assembled his parish and explained to them his wishes. The only mode of communication which the greater part of the parish had with the neighboring towns, lay through the river Bruche, where its waters were shallow enough to be passed on foot. He proposed that they should open a new road, and throw a bridge across the torrent, which might enable them to communicate freely with adjacent districts. All were amazed. It was impossible. They declined the undertaking. In vain did Oberlin reason with them upon its importance, until seizing a pick-axe he exclaimed, 'all who feel the importance of my proposal, come and work with me.' His enthusiasm instantly spread. All ran for their tools and joined him. His plan being matured already, they began at once. And thus at the head of two hundred peasants did the zealous pastor toil, till at the end of two years, after overcoming the most disheartening obstacles, he saw his design successfully accomplished. Roads were afterward made to connect the several vil-

Parsonage House and Church of Waldbach.

lages. Walls were built to prevent the soil on the declivities from being washed down by the mountain streams. And thus, by the energy of an individual, the first impulse was given to improvements, whose benefits are felt by a whole people.

Oberlin next selected a number of youths from among his parishioners, clothed them, and apprenticed them in the adjacent towns; and thus in a few years he had prepared good workmen in all the most important trades. He caused also a warehouse to be opened in which were deposited various utensils for farming, to be sold to his people at cost, with such credit as they needed. He instructed them to erect cottages instead of their miserable hovels, with good cellars, and properly furnished. He directed their attention to the improvements in agriculture which were most essential. By introducing a new method of cultivating the potato, and obtaining new seed from Germany and elsewhere, he augmented the resources of his people; and to his exertions they attributed their being saved, in some years of scarcity, from famine. As soon as he saw that they began to recognise the utility of his instructions, Oberlin formed a little society among his more intelligent farmers, which he affiliated with that at Strasbourg; and the latter society placed at his disposal, in 1805, the sum of two hundred francs, to be distributed in prizes to the peasants who had excelled in the care of their nurseries and fruit trees. He instituted a weekly lecture for the young people, with a view to render these improvements permanent, in which he explained to them in a familiar way, the subjects of agriculture and general science, as well as religion. Not a year passed, in which some useful plans were not introduced and carried out; so that the rapid progress in civilization and prosperity of this once savage canton, was a subject of wonder in neighboring districts.

To provide employment for the increasing population of so confined a district, not one fourth of whom could be occupied in cultivation, Oberlin introduced various mechanic arts, and domestic manufactures. The reputation of their pastor, and the moral character of his parishioners, their intelligence, simplicity, and integrity induced M. le Grand to remove a manufactory of silk ribbons from the Upper Rhine to the Ban de la Roche. 'The pleasure,' says he, 'of living in the midst of a little colony, whose manners are softened, and whose minds are enlightened by the instructions which they receive from their earliest infancy, compensates the privations of a valley separated from the rest of the world, by the mountains which surround it.'

Education must, of course, have soon engaged the zealous cares of the good pastor. When he came there, but one wretched hut in the five villages was used as a school, nor were the peasants willing to hear of any other. Oberlin was poor, but he caused a building to be begun at his own risk, even securing his people against expense for repairs; and in no long time, they had a school-house in each village. He gathered the youngest children into spacious rooms hired and fitted at his own charge, and placed over them governesses who had been prepared by his own instructions for their task. Here was spent a happy infancy, in such amusements as were most suitable, and the acquisition of the simplest rudiments of learning. The pastor enjoined that only pure French should be used among these children, and thus nearly banished the *patois* from the canton.

When prepared the children were received into the public schools. Their religious instruction Oberlin reserved for himself. Every Sunday they were assembled at the church, and recited what they had learned, to their pastor, by whom they were tenderly admonished. During the week, another meeting was held, for the purpose of mutual improvement both of teachers and pupils. From benevolent friends Oberlin procured funds for a juvenile library, and to this he added an electrical machine, some other philosophical instruments, and a collection of plants. Useful works, some of which he himself printed, were made to perform the tour of all the schools yearly; and prizes were awarded to masters and scholars. Oberlin drew up an almanac to take the place of the superstitious calendars then in use. In their summer walks he taught the children to search for the plants the names of which they had learned in winter. He encouraged a taste for flowers and gardening; and scholars of twelve years of age

and upwards were required to write out and commit to memory lessons on agriculture and the care of trees, prepared for them by himself. He impressed on parents and children equally the importance of cultivating the earth, as a part of religion. And it was his custom to require a certificate of every youth who came to be confirmed, showing that he had planted in a described spot, two young fruit trees.

The influence which Oberlin gained over his parishioners was almost unbounded. The most touching incidents are related in proof of this. For eighty years a litigation had existed between the peasants, and their *Seigneurs*, respecting the right of the forests which covered their mountains. Their pastor overcame the rooted animosities and selfish passions which had so long reigned unsubdued; and persuaded them to yield to an amicable overture at a considerable sacrifice. The mayors in deputation on the occasion, presented him with the pen with which the deed was signed, as a memorial of his noble conquest. Another instance deserves also to be mentioned. A young woman of Shirmeck, a Catholic, had married a peasant of Waldbach. The man had enemies, who hated him because he was richer than they. After the birth of a daughter, they proposed to go to Shirmeck, that it might be baptized by the Catholic priest. Just as they would have set off, it was told them that some persons had determined to intercept them at a particular place, and compel the husband to assent to an unjust claim. In their terror they sought Oberlin, who accompanied them to the spot, and there stopping a few moments he knelt with them in devotion. The men in ambush rushed out, but seeing their pastor were instantly checked by dismay. He approached them with the infant in his arms, and said with indignation, 'there is the infant which has so much injured you,—which disturbs the peace of your days.' The men confessed their guilt, begged pardon of the young couple, and returned with Oberlin to the village. On quitting them he said, 'My children, remember the day of the mountain, if you wish I should forget it.'

Oberlin was at one time the only physician of his parish, having studied medicine with a view to that benevolent object. He would often go to Strasbourg on errands of mercy for his people, and generally travelled by night lest he should be too long away. His activity was surprising. He would climb the steepest summits, and plunge through pathless snows, on a visit to the sick. He afterwards sent a young man to Strasbourg to be prepared for a physician and surgeon.

The style of preaching at Waldbach was adapted wholly to his own flock, but Oberlin generally wrote his sermons with great care and committed them to memory. The Sabbath afternoon was devoted to a catechetical exercise. On Friday he conducted a service in German for the benefit of such among his people as were most familiar with that language. These meetings were less numerous, and the good pastor laid aside all form, and made his address truly paternal. The women listened to him while going on with their work; and, now and then, the pastor would pause and pass round his snuff box. When he had pursued a train of reflections to some length, he would ask, 'My children, are you not tired? have you heard enough?' To which they with the same simplicity replied, 'No, Papa, go on; we should like to hear a little more.' Or if he seemed fatigued, they would thank him and ask to be dismissed.

How excellent were the fruits of his ministry, there are such evidences as these. When a poor man now leaves an orphan family, his neighbors and relations distribute these children among them, adopting them for their own. The young men assist the old and the sick, by laboring for them after their own day's task is over. Is a cottage to be built? All help to procure the materials and put them together. Does a peasant lose his cow, his whole support? The parish club to get him another. The inhabitants of these mountains have become remarkable for their pure morals, active goodness, and simple piety. A respectable minister thus describes a Sabbath service at Waldbach. 'We set off to attend the sermon. The village is on a rapid slope. The horse he was to ride was sent on to the bottom of the village, and we descended on foot. He shook hands with every child he met; several came forward towards him, and all were gladdened by his affability. 'Jesus,' he would often say, 'loved children.' He ascended on horseback about half a league further. His parishioners, collected near the church, formed a sort of lane, their hats off. Oberlin addressed them all as his children. All the *regents* came forward to shake hands with Papa. After sermon he administered baptism, holding the child in his arms; and he took occasion to remind the parents of their duty. Some rebukes he addressed to them, affected them extremely. He returned thanks for the result of a collection which had been made for a poor family; he offered up a prayer on their behalf, but he was unable to go through it. The emotion of all answered to his tears.' Mr. Owen, speaking of a similar occasion, says, 'the appearance of the congregation, their order and seriousness, with the fervor, tenderness, and simplicity with which their pastor addressed them, conveyed to my mind the impression of a sincere and elevated devotion.' All which appears confirms this account of the improvement effected by Oberlin, on a people whom he found in an almost barbarous condition. Louis XVIII conferred on him the decoration of the Legion of Honor in acknowledgement of his having been the author of the welfare of a whole population.

Oberlin did not confine his benevolence at home. He was one of the earliest friends and agents of the London Bible Society, on the continent. As soon as he learned there were missionaries he sold his family plate, to devote the avails to the enterprise. His people were accustomed to share in all such charities. He was himself actuated by the genuine missionary spirit; and, in the early part of his ministry, he for some time hesitated whether he should not accept an invitation to undertake a station in Pennsylvania. He expressed his readiness to set off, and his wife par-

ticipated in his sentiments; but whilst they were waiting for more specific directions, the war broke out between England and America, and prevented their departure. At a time when many of various religious denominations fled from Strasbourg on account of persecution, they were all hospitably sheltered and generously provided for. He was beloved by the Catholics not less than the Protestants around him. He administered the sacrament to Catholics, Lutherans, and Calvinists, at the same time, and because they would not eat the same bread, he had on the plate bread of different kinds, wafer, leavened and unleavened. In every thing the same spirit appeared. Every harsh passion encountered his sure rebuke, every gentle emotion was inspired by his presence. The stranger, who turned aside from the beaten route to visit the Ban de la Roche, went away deeply impressed by the enthusiastic goodness of its venerable pastor.

We cannot conclude this account of Oberlin, much of which we find prepared to our hands, without a notice of one event, which serves to illustrate a peculiarity in his character, and which without doubt contributed materially to his encouragement in the discharge of his various duties;—we mean his marriage with Madeleine Salomé Witter, an orphan daughter of a professor of the University of Strasbourg, and a relative of his own family, which took place July 6th, 1768. It was his rule to enter upon no engagement or service, until he was persuaded that Providence was propitious to his design. He carried this principle to a rather amusing extreme in his matrimonial plans, and failed in his first attempt, or rather withdrew from his proposed suit, because the *mother* of the lady he had chosen did not make the first proposal; which he had fixed upon as the omen, by which he should know whether she were the partner designed for him by Heaven.

The mother gave him a courteous reception, and even called down her daughter, whose appearance did not, however, particularly please him; they sat down, talked of a pretended cause of the visit, of the weather, and of the news about the town, till at length, all topics being exhausted, a silence succeeded; the parties looked at each other in some surprise, for Oberlin was a novel visitor there, and then looked down again. This scene of 'silent state' lasted about two minutes, when the latter, who had decided in his own mind how to act, made a polite bow and took his departure, leaving both mother and daughter at a loss to conjecture the cause of this singular visit, and the marriage was never again thought of.

The secret most probably is, that the match was set on foot by his mother; when he made his own choice, he acted more discreetly. Miss Witter being on a visit to Waldbach, the time of her departure at length drew near. Only two days before the period fixed upon for her return to Strasbourg, Oberlin felt as though a secret voice within whispered, 'Take her for thy partner!' He, however, resisted the call. 'It is impossible,' said he, almost aloud—'our dispositions do not agree.' 'Take her for thy partner!' the voice still continued. He spent a sleepless night, and in his prayers next morning solemnly declared to God, that if He could give him a sign, by the readiness with which Madeleine should accede to the proposition, that the union was in accordance with His will, he would cheerfully submit to it, and consider the voice he had heard as a bidding of Providence.

After breakfast, the same morning, he found the young lady sitting in a summer-house in the garden. Placing himself beside her, he began the conversation by saying, 'You are about to leave us, my dear friend; I have had an intimation that you are destined, by the Divine will, to be the partner of my life. If you can venture upon this step, so important to us both, I expect you will give me your candid opinion about it, before your departure.'

Upon this Miss Witter rose from her seat, and, blushing as she approached him, placed one hand before her eyes, and held the other towards him. He clasped it in his own. The decision was made; a decision which he never found cause to regret, for, notwithstanding the determination Madeleine had made, not to be allied to a minister, she became truly devoted to his interests, and the most cordial attachment ever afterwards subsisted between them. She died after a short illness, in January 1784. This event severed his fondest hold on life. Every day he devoted whole hours to holding communion with her in those abstracted frames of mind which make us almost imagine ourselves in the presence of those whom we love. A speedy reunion in the mansions of our Father's house, was, nevertheless, one of his most cherished desires. 'I hope,' he would often say, 'that the world in which God will reunite me to my beloved wife will soon open to me.'

After entering upon his eightieth year, Oberlin was obliged gradually to retire from all his active duties; but he was able to exercise a general superintendence over his people, and devoted much of his time to praying for them, which he did *seriatim* in the order of their baptismal registry. The vigor of his intellect remained, and he wrote several essays, amongst which was a refutation of *Cicero de Senectute.* His mortal illness attacked him on the 28th of May, 1826, and with a calmness entirely accordant with his character, he resigned his being on the 1st of June, in his eighty-sixth year. The decease of the personage, who for nearly sixty years had presided over the destinies of their little world, and had guided them and their fathers from ignorance and wretchedness, to the blessings of intelligence and domestic comfort, excited inexpressible sensations in the community. They were at once deprived of their spiritual, intellectual, and social guide, who had led them from their infancy and provided for all the variety of their wants. The whole population crowded to view the beloved remains, during the four days that intervened between his death and interment. The procession at the funeral extended the distance of two miles from the parsonage to the Fondai church. During its progress, the melancholy toll of the village bell mingled with the chanting of the

school-children; the burying-ground was surrounded by females of the Roman Catholic Church, habited in mourning, and kneeling in silent prayer. The body was carried into the church, where a paper was read, which had been prepared by Oberlin in anticipation of the occasion, in which he gave an outline of his career, committed his children to the protection of his people, and concluded with a solemn exhortation to remember his admonitions. After other impressive exercises, the body was committed to the earth.

Thus much we have said respecting Oberlin, and if we had room we should be glad to introduce many more anecdotes illustrative of his general character and habits. Without extraordinary talents, but possessing deep piety and an enthusiastic interest in the welfare of mankind, he made the desert blossom like the rose, and changed a generation of rude inhabitants into one of the most interesting communities on the face of the globe. The effects of his labors are still visible. His relatives still carry on the good work he began. And many a desponding heart will be comforted and encouraged when the prospect of doing good is bright, compared with the discouragements under which the good pastor of Waldbach labored.

TOMB OF ABSALOM.

Our readers will have perceived that while our Magazine is American in name, and is designed to be American in its spirit and character, we have not hesitated occasionally to give them accounts and engravings of interesting objects in the Old World. We are glad to learn that our course in this respect has met the approbation of our patrons generally. Indeed, we think there can be few who have not some curiosity to become acquainted with objects of interest in other countries besides their own. It is a commendable curiosity, and we are willing to contribute something to its gratification.

To the friends of Christianity objects associated with sacred history and with the Holy Land must have a peculiar interest. In our June number we gave a view of the church of the Holy Sepulchre, with some account of it derived from the statements of travellers who have visited the spot. We here present our readers with a view of the Tomb of Absalom, situated in the valley of Jehoshaphat, about two furlongs without the walls of Jerusalem. This valley, says Russell, stretches between the eastern walls of the city and the Mount of Olives, containing a great variety of objects, to which allusion is made in the sacred writings. It was sometimes called the King's Dale, from a reference to an event recorded in the history of Abraham, and was afterward distinguished by the name of Jehoshaphat, because that sovereign erected in it a magnificent tomb. This narrow vale seems to have always served as a burying-place for the inhabitants of the holy city: there you meet with monuments of the most remote ages, as well as of the most modern times: thither the descendants of Jacob resort from the four quarters of the globe, to yield up their last breath; and a foreigner sells to them, for its weight in gold, a scanty spot of earth to cover their remains in the land of their forefathers. 'Observing,' says a recent traveller, 'many Jews, whom I could easily recognise by their yellow turbans, quick dark eyes, black eyebrows, and bushy beards, walking about the place, and reposing along the Brook Kedron in a pensive mood, the pathetic language of the psalmist occurred to me, as expressing the subject of their meditation,—"By the rivers we sat down and wept when we remembered Zion." Upon frequently inquiring the motive that prompted them in attempting to go to Jerusalem, the answer was, "To die in the land of our fathers."'

This valley or dale still exhibits a very desolate appearance. The western side is a high chalk-cliff supporting the walls of the city, above which you perceive Jerusalem itself; while the eastern acclivity is formed by the Mount of Olives and the Mount of Offence, so called from the idolatry which oppresses the fame of Solomon. These two hills are nearly naked, and of a dull red color. On their slopes are seen, here and there, a few bleak and parched vines, some groves of wild olive trees, wastes covered with hyssop, chapels, oratories, and mosques in ruins, at the bottom of the valley you discover a bridge of a single arch, thrown across the channel of the Brook Kedron. The stones in the Jewish cemetery look like a heap of rubbish at the foot of the Mount of Offence, below the Arab village of Siloane, the paltry houses of which are scarcely to be distinguished from the surrounding sepulchres. From the stillness of Jerusalem, whence no smoke arises and no noise proceeds,—from the solitude of these hills, where no living creature is to be seen,—from the ruinous state of all these tombs, overthrown, broken, and half open, you would imagine that the last trumpet had already sounded, and that the Valley of Jehoshaphat was about to render up its dead.

Amid this scene of desolation three monuments arrest the eyes of the intelligent pilgrim,—the tombs of Zechariah, of Absalom, and of the king whose name still distinguishes the valley. Of these, the reputed tomb of Absalom, which is represented below, has for its base a square mass of rock, with the metopes and triglyphs of the Doric order. This is surmounted by a sharp conical dome, having large mouldings running round its base, and on the summit something like an imitation of flame. There is here so strange a mixture of style and ornament, that one knows not to what age to attribute the monument as a whole. The square mass below is solid, and the Ionic columns which are seen on each of its faces are half indented in the rock itself. The dome is of masonry, and on the eastern side there is a square aperture in it. Generally speaking, the sight of this monument suggests the idea that the hewn mass of solid rock, the surmounting pyramid and dome of masonry, and the sculptured frieze and Ionic columns wrought on the faces of the square below were works of different periods; being probably ancient sepulchres, the primitive character of which had been changed by the subsequent addition of for-

eign ornaments. There is, besides, every reason to believe that this monument really occupies the site of the one which was set up by him whose name it bears. 'Now Absalom in his life-time had reared up for himself a pillar, which is in the King's Dale; for he said, I have no son to keep my name in remembrance; and he called the pillar after his own name; and it is called unto this day Absalom's Place.'

RECENT DISCOVERIES RESPECTING THE PHYSICAL PROPERTIES OF THE SUN'S LIGHT.

It has been known for several years, that light of different colors possessed powers of exciting the sensation of heat in different degrees, the observation being originally made by the celebrated astronomer Herschel; who, on viewing the sun through powerful telescopes, with colored glass intervening to take off the excessive glare, found that sometimes there was an insupportable heat transmitted to his eye, and at other times an inappreciable quantity. He examined a beam of light which had passed through a prism, and came to the conclusion that the violet was the coldest of all the colored rays, and the red the hottest; but, what was extremely singular, that a class of rays emanated from the sun, competent to excite a more intense sensation of heat than any of the former, but quite invisible to the eye.

A short time after, another curious fact was established by Ritter, that rays capable of producing a variety of chemical changes came from the sun, and these, like the former, were also invisible to the eye. The violet ray, insulated by a flint glass prism, was discovered to exhibit their properties in the most marked degree; but beyond the violet, in a space where no light could be seen, the action was still more energetic. Philosophers therefore inferred, but only upon this indirect evidence, that there were three kinds of rays emitted by the sun, one exciting the sensation of light, another that of heat, and another competent to induce chemical action.

For many years no further discovery was made. A celebrated Italian physician, Melloni, has at length announced, that, by passing a ray of light, first through water, and then through a piece of glass-colored green, all the heat of the sun's rays might be stopped, and the light insulated. A most accomplished English lady, Mrs. Somerville, has also very lately stated, that, by means of a similar or the same arrangement, the chemical action of the sun might be suspended.

We have to announce that discoveries of the same kind, but much more extensive, have simultaneously been made in this State. Doctor Draper, the Professor of Chemistry in Hampden Sidney College, found, in an investigation of this matter, that not only compound media, such as water and colored glasses would stop the heat and chemical action of the solar ray, but that there is an extensive class of bodies which accomplish the same thing: these are chiefly the coloring matter of certain vegetables, and salts dissolved in water or in spirits of wine. Some curious facts have thus been disclosed. A body may be transparent to the sun's light, or to his heat, and opaque to his chemical ray. A solution of tannin, which is made from the bark of the red oak, is transparent to the sun's light, and opaque to his heat; the same may be said of litmus, or turnsole, dissolved in water, and of a variety of tinctures, such as turmeric, saffron, &c. Some of the metallic salts afford very fine examples of these results; the substance known in commerce as the bichromate of potassa, when in solution, is transparent to the ray of light, semi-transparent to the ray of heat, and absolutely opaque to the chemical ray; and, on the other hand, this latter ray will freely pass through a stratum of solution of sulphate of copper and ammonia, thick enough to be opaque to the two former. Color has little or no agency: the chloride of gold and the chloride of platina, which are yellow; the sulphate of copper, which is blue; the muriate of cobalt, which is pink; the chloride of chromium, which is green; and the sulpho cyanate of iron, which is red, though they are all more or less transparent as respects light, are far less so as respects heat; and in regard to the chemical ray, some of them are quite opaque, and some quite transparent. An examination of nearly three hundred substances has led to the conclusion, that even substances which are colorless, limpid, and as transparent as water, exercise very different functions. None such, however, have yet been found opaque to the ray of heat, or the chemical ray, though some approach to that condition.

Dr. Franklin, and the philosophers of his day, supposed that the solar light on being extinguished, became heat; the general tendency of these experiments would lead to a very different conclusion. In this age of luxury, it is probable that these researches, refined and delicate as they are, can be made to minister to our comforts, and the revival of one of the fine arts, now nearly extinct, will be the consequence. We can admit into our chambers the full blaze of the noonday sun, and

shut out his heat! Those of us who have witnessed the gorgeous volumes of parti-colored light, which pass through the painted windows of the palaces and abbeys of the old continent, and the quiet feeling of calmness that comes over us, may expect with pleasure the restoration of these inimitable ornaments, and the voluptuary may look forward to the poetical delight of 'basking in a cool sunbeam.'—*S. L. Mess.*

GENERAL WAYNE.

Major General Anthony Wayne was born in Chester County, Pennsylvania, on the 1st of January, 1745. He seems to have inherited from his ancestors a taste for military pursuits; his grandfather having been a commander of dragoons at the battle of the Boyne, and his father having distinguished himself in frequent encounters with the Indians. At school young Wayne found his studies distasteful and often neglected them for the sake of military amusements. At the age of eighteen, he left the Philadelphia academy, and, having made considerable proficiency in mathematics, commenced the business of a surveyor, which he followed for several years.

In 1773–4, he was a member of the Pennsylvania convention and a representative in the provincial legislature. In 1775, he quitted the councils of his country for the field. He raised a regiment of volunteers which he was elected to command. Soon afterwards he received the appointment of colonel from the Continental Congress, and at the head of his regiment marched with General Thompson to Canada. When this officer was defeated in the battle of the Three Rivers, in June 1776, and taken prisoner, Wayne himself received a flesh-wound in the leg; yet he distinguished himself by his skill in bringing off the troops. In February 1777, he was promoted by Congress to the rank of brigadier-general, at which time he commanded at Ticonderoga. In the campaign of 1777 in the Middle States he took a very active part. He signalized himself in the battle of Brandywine on the eleventh of September, though he was in a few days afterwards surprised and defeated by Major general Grey. This affair was made the subject of military investigation, and he was acquitted with honor, 'as having done every thing that could be expected from an active, vigilant, and brave officer, under the orders which he then had.'

Wayne fought also in the battle of Germantown, as well as in the battle of Monmouth in June 1778. In the former battle he was twice slightly wounded, and had his horse shot under him.

In the winter of 1777–8, a circumstance occurred to which subsequent events gave peculiar interest. We give it in the words of the memoir in the National Portrait Gallery. 'While the army lay at Valley Forge, Wayne was detached into New Jersey with a body of troops, to collect cattle and destroy the forage which would be likely to fall into the hands of the enemy. He succeeded, even in the face of the foe, in sending into camp several hundred head of cattle, and a number of fine horses, and forage. It was in consequence of this success, that Major André wrote a song, to the tune of 'Yankee Doodle,' of which the concluding stanza runs thus:

> "But now I end my lyric strain—
> I tremble whilst I show it!
> Lest this same warrio-driver Wayne
> Should ever catch the poet."

The unfortunate poet's fate has changed his mock-heroic to a tragic strain; for when taken he was delivered to Wayne at Tappan.

On the night of the fifteenth of July 1779, General Wayne made a most daring and successful assault upon Stony Point on the river Hudson. While he was rushing forward with his men under a tremendous fire of musketry and grape shot, determined to carry the works at the point of the bayonet, he was struck by a musket-ball upon his head. He was for a moment stunned; but, immediately rising on one knee, he cried out, 'Forward, my brave fellows, forward.' Then, supposing his wound to be mortal, he said to one of his aids, 'carry me forward and let me die in the fort.' For his gallantry on this occasion he received a gold medal with the thanks of Congress.

In 1781, he was ordered to march with the Pennsylvania line from the northward and form a junction with Lafayette in Virginia. On the 6th of July, after receiving information that the main body of the enemy under Cornwallis had crossed James's river, he pressed forward at the head of 800 men to attack the rear guard. But to his utter astonishment, when he reached the place, he found the whole British army, consisting of 4000 men, drawn up ready to receive him. At this moment he conceived of but one way to escape. He rushed upon the enemy, and commenced a gallant attack, which he supported for a few minutes, and

then retreated with the utmost expedition. The British general was confounded by this movement, and, apprehensive of an ambuscade from Lafayette, would not allow of a pursuit.

After the capture of Cornwallis, he was sent to conduct the war in Georgia, where, with equal success, he contended with British soldiers, Indian savages, and American traitors. As a reward for his services, the legislature of Georgia presented to him a valuable farm. At the conclusion of the war he retired to private life. He was subsequently a member of the Pennsylvania convention which ratified the constitution of the United States, in which he gave his vote and influence in favor of the ratification. In 1792, he succeeded St. Clair in the command of the army to be employed against the Indians. In the battle of the Miamis, August 20, 1794, he gained over them a complete victory, and afterwards desolated their country. On the third of August 1795, he concluded a treaty with the hostile Indians north-west of the Ohio. While engaged in the service of his country he died in December 1796, in a hut at Presque Isle at the age of fifty-one. His remains were buried upon the shores of Lake Erie; but in 1809, they were removed to his native country, by his son, Isaac Wayne, Esquire.

In the character of General Wayne the decision and promptness, the intrepidity and energy so essential to the character of a good general, were combined with the sound judgment, correct principles, and ardent patriotism, which belong to a useful citizen. He was possessed of a commanding presence, pleasing address, and daring bravery. He was excellent in discipline, unrivalled in enterprise, and was always held in high respect by his companions in arms. A monument has been erected to his memory, by the society of Cincinnati, in the cemetery of St. David's church, near the place of his birth.

INDIAN MUMMIES.

The Boston Mercantile Journal says, a gentleman of this city, now in Peru, has lately sent home to the care of his friends, some valuable and interesting Indian relics, consisting of several mummies and skulls of the inhabitants of that country, before it was subjugated by Pizarro. Two of these mummies are adults, male and female. They are merely swathed with some thicknesses of a coarse, but well made woollen cloth; which appears to have been saturated with nitre, or some other antiseptic material.

The flesh, however, is nearly all decomposed, leaving the hair, the vestments, ornaments, and various articles, in a most fresh and perfect state. In the folds of the cloths, which were wrapped around the female, were found a little bag filled with shells, probably the coin with which she was to pay her passage to the land of spirits—a bag or *reticule*, containing a number of ringlets of different kinds of horn, and a quantity of red and black paint. Several needles, ingeniously manufactured from thorns, and threaded; a comb of a singular construction, with the hair sticking to it, as if it had lately been used; and a piece of cloth containing within many folds another enclosing a piece of woollen yarn curiously knotted, probably, the *knotted cord* of that people, and which may contain a brief, biographical sketch of the individual for aught we know. The head of the man was covered with a handsome cap ingeniously manufactured from a strong and durable cloth. He also had in the folds of the envelope, a few shells, &c. and near him were found his bow and arrows.

These mummies have been deposited in excavations in the earth, and have been surrounded at a little distance with dry sand. These relics exhibit an advancement in the civilized arts, to a degree absolutely astonishing. The cloths and cords, of various textures and kinds, show that they possessed no contemptible skill in the manufacturing arts. A number of articles of pottery, ingeniously wrought, well burnt, and ornamented with a species of enamelling, were also deposited in these tombs.

The skulls which accompany these mummies, are about ten or twelve, and are exceedingly interesting to the phrenologist. They were taken from the burial places of the ancient Peruvians, and furnish convincing proof that two races of human beings, with characteristics differing from each other, once inhabited that country. One race evidently possessed good intellectual faculties, and considerable moral worth. The other approximated towards the brute creation, and could have manifested but a modicum of intellectual or moral principle, but being exceedingly cowardly and cunning. Indeed from their skulls, we might suppose this class of Peruvians to have been the Yahoos of Dean Swift; and they seem to have been well organized for drudges and slaves.

Sagacity of the Wolf. A singular circumstance, exhibiting in a remarkable degree the reflecting faculties of a wolf is related as having taken place at Signy-le-Petit, a small town on the borders of Champagne. A farmer one day, looking through the edge of his garden, observed a wolf walking round about his mule, but unable to get at him, on account of the mule's constantly kicking with his hind legs. As the farmer perceived that the beast was so well able to defend itself, he considered it unnecessary to lend him any assistance. After the attack and defence had lasted full a quarter of an hour, the wolf ran off to to a neighboring ditch, where he several times plunged into the water. The farmer imagined he did this to refresh himself after the fatigue he had sustained, and had no doubt that his mule had obtained a complete victory; but, in a few minutes, the wolf returned to the charge, and approaching as near as he could to the head of the mule, shook himself, and spirted a quantity of water into the mule's eyes, which caused him immediately to shut them. That moment the wolf leaped upon him, and killed the poor mule before the farmer could come to his assistance.

RISE AND FALL OF FAMILIES.

Every young man should start in life determined to act upon the motto *Nil Desperandum*, or *Don't give up the ship*. Let him, on commencing life, look around him and see who are the wealthy, who are the influential, who are the courted and respected of society, and ask from whence they sprang. In ninety-nine cases out of a hundred, he will find them to be those who, at his age, possessed as little of the world's gear, as little of family influence, and as little of any extraneous aid as he himself possesses; men who commenced the world with nothing, and whose advancement in life solely depended upon their own husbandry, frugality, integrity, and strict attention to business.

Most young men consider it a great misfortune to be poor, or not to have capital enough to establish themselves at once in a good business; this is a very mistaken notion, for, so far from poverty being a misfortune to him, if we may judge from what we every day behold, it is really a blessing; for the chance is more than ten to one in favor of the success of such a young man, over one who starts with plenty of money. Look back twenty years, and see who commenced business at that time with abundance of means, and trace them down to the present day; how many of them can now boast of wealth and standing? On the contrary, how many have become poor, lost their places in society, and are passed, by their once boon companions, with a look which plainly says, *I know you not*.

In this country, the wheel of fortune is constantly turning, and he who is at zenith this year, may be at nadir next, and excite no surprise. It is seldom that the fourth, or even the third generation enjoys property and station in society which was won by the industry of the first. This constant change is the natural result of causes in continual operation. The first generation starts in life poor, but industrious and honest; he resolves to acquire property, and at the same time sustain a character that shall command respect. By dint of long perseverance in business, and the attainment of a high character for integrity and fair dealings, he succeeds, (such a man never fails,) and becomes wealthy. His sons succeed him, perhaps maintain the character of their father, and add to the wealth he left them—they were educated to business, and know how the property they enjoy was acquired. But their sons grow up, and from infancy find themselves in the lap of luxury, and rocked in the cradle of ease; their minds are never turned on business—that is beneath them—they are engrossed in important nothings; scorn labor; run the rounds of folly; marry light headed fashionable ladies, who have as sovereign a contempt for laborers, and the useful things of life as themselves; dash away a few years in their carriage; lose their parents; divide their property; attempt to carry on business; are incapable of managing it—fail, struggle to keep up appearances and their places in fashionable life—are obliged to retire—wretched and miserable at home—and get through the world as they can, carrying always the appearance of shabby gentlemen, and being looked at askance by their former companions. Their children are more miserable even than themselves; being brought up with an idea that labor is degrading; and that they are a superior order; while necessity compels them to resort to some means of getting a living, pride and poverty are at war with them, and they drudge out a miserable and precarious life.

Revolutionary Battles. The following is thought to be a complete list of the principal battles fought during the war of the revolution, with the exception of a few in the Southern States:—Battle of Concord, April nineteenth, 1775; battle of Bunker-hill, June seventeenth, 1775; battle of Old Hampton, Va., where we took five decked vessels, some time in November, 1775; battle of Great Bridge, near Norfolk, Va., December eighteenth, 1775; battle of Long Island, August twenty-seventh, 1776; battle of Fort Washington, November seventeenth, 1776; battle of Fort Lee, November sixteenth, 1776; battle of Trenton, when one thousand Hessians were captured, December twenty-sixth, 1776; battle of Princeton, January second, 1777; battle of Bennington, August sixteenth, 1777; battle of Brandywine, September eleventh, 1777; battle of Germantown, October fourth, 1777; Burgoyne's army taken near Saratoga, October seventeenth, 1777; battle of the Red Banks, October twenty-second, 1777; battle of Monmouth, June twenty-eighth, 1778; battle of Stoney Point, July sixteenth, 1779; battle of Camden, August nineteenth, 1780; battle of Guilford, N. C., March fifteenth, 1781; massacre at Groton, Ct., September sixth, 1781; battle of Eutaw Springs, October sixth, 1781; battle of Kings' Mountain, October seventh, 1781; Cornwallis and his army taken, October nineteenth, 1781.

A good wife is a man's best moveable, a scion incorporate with the stock, bringing sweet fruit, one who to her husband is more than a friend, less than trouble, an equal with him in the yoke. Calamities and troubles she shares alike, nothing pleases her that doth not him. She is relative in all, and he without her, but half himself. She is his absent hands, eyes, ears, and mouth, his present and absent all; she frames her nature unto his *howsoever;* the hyacinth follows not the sun more willingly; stubbornness and obstinacy are herbs that grow not in her garden. She leaves tattling to the gossips of the town, and is more seen than heard; her household is her charge, her care to that makes her seldom non-resident. Her pride is but to be cleanly, and her thrift not to be prodigal. By her discretion she hath children not wantons; a husband without her is a misery in man's apparel; none but she hath an aged husband, to whom she is both a staff and a chair. To conclude, she is both wise and religious, which makes her all this.—*Sir T. Overbury.*

Rubus Villosus (Tall Blackberry).

RUBUS VILLOSUS, OR TALL BLACKBERRY.

The shrub of which we lay before our readers an engraving is one of the most common and interesting species of the Rubus. It abounds among the brushwood of neglected fields and pastures, about fences, and the borders of woods, from the Eastern to the Southern States. Being of rapid growth, it is frequently troublesome to the farmer by spreading in his lands, although it offers some amends for the intrusion by the abundance and flavor of its fruits. It is commonly called *tall* or *high* blackberry, in distinction from the *rubus trivialis*, or *low* blackberry, which it greatly resembles in the quality of its fruit. It is in flower in June, and its fruit is ripe in August and September. The fruit is among the most delicious productions of the uncultivated forest. To an agreeable combination of sweetness and acid it adds an aromatic fragrance which is surpassed by few of the lighter fruits produced among us. It differs in

size and perfection in different seasons, warm and dry summers being most favorable to its perfect maturity. The markets, however, are rarely destitute of this fine fruit in the months of August and September, though the quality of the fruit is considered by most persons altogether superior when it is taken from the neglected or half subdued fields in the newly settled parts of the country.

The bark of the root of this bramble is often medicinally employed on account of its having the properties of a very powerful astringent. Dr. Bigelow, who is our authority in relation to this whole subject, says he has tried its operation sufficiently to become satisfied of its efficacy both internally and externally used in a variety of cases which admit of relief from medicines of this class. It is true that our list of vegetable astringents has become very numerous, and the cases which require them are perhaps less frequent than was formerly imagined; yet as we continue to import and consume various foreign medicines of this kind, we ought not to exclude from attention native articles of equal efficacy. Professor Chapman, of Philadelphia, expresses a very decided opinion in regard to the powers of this substance. 'Of the vegetable astringents,' says he, 'this I have reason to believe is among the most active and decidedly efficacious in certain cases. To the declining stages of dysentery, after the symptoms of active inflammation are removed, it is well suited, though I have given it, I think, with greater advantage under nearly similar circumstances, in cholera infantum. To check the inordinate evacuations which commonly attend the protracted cases of this disease, no remedy has ever done so much in my hands. Even two or three doses will sometimes so bind the bowels that purgations become necessary. Being so powerfully astringent, this medicine is useful in all excessive purgings, and especially in the diarrhœa of very old people, as well as when it occurs at the close of diseases. During my attendance on our public institutions I had abundant opportunities of testing its efficacy in these cases.'

For the generic character, it has a five-cleft calyx, five petals, and a compound berry composed of one-seeded acini. This species is pubescent, bristly and prickly, the leaves in threes or fives, leafets ovate, acuminate, serrate, pubescent, with the petioles prickly; flowers racemed. Class *Icosandria*, order *Polygynia*; natural orders *Senticosæ*, Lin., *Rosaceæ*, Juss.

This shrub has a tall, branching, prickly stem, which is more or less furrowed and angular. Leaves mostly in threes on a channelled, hairy petiole. A few are solitary and some quinate. Leafets ovate, acuminate, sharply and unequally serrate, covered with scattered hairs above, and with a thick soft pubescence underneath. The terminal leafet is pedicelled, the two side ones sessile. The petiole and back of the middle rib are commonly armed with short recurved prickles. The flowers grow in erect racemes with a hairy prickly stalk. The pedicels are slender, an inch or two in length, covered with glandular hairs, and supported by lanceolate bractes. Calyx divided into five ovate, concave, hairy segments ending in an acuminate point or a lanceolate leafet. Petals five, white, ovate, or oblong, concave, contracted into a short claw at the base. Stamens very numerous, with roundish anthers, and slender, white filaments. Germs numerous, covering a conical central receptacle. Styles capillary, arising from the sides of the germs, persistent. Fruit a black, shining compound, being formed of pulpy acini attached to the receptacle, each containing a single oblong seed.

THE WORM.

Who has not heard of the rattle-snake or copper-head! An unexpected sight of either of these reptiles will make even the lords of creation recoil; but there is a species of worm found in various parts of this State, which conveys a poison of a nature so deadly, that, compared with it, even the venom of the rattle-snake is harmless.

To guard our readers against this foe of human kind, is the object of this communication.

This worm varies much in size. It is frequently an inch through, but as it is rarely seen, except when coiled, its length can hardly be conjectured. It is of a dull lead color, and generally lives near a spring or small stream of water, and bites the unfortunate people who are in the *habit of going there to drink*. The brute creation it never molests. They avoid it with the same instinct that teaches the animals of Peru to shun the deadly Coya.

Several of these reptiles have long infested our settlements, to the misery and destruction of many of our fellow citizens. I have, therefore, had frequent opportunities of being the melancholy spectator of the effects produced by the subtle poison which this worm infuses.

The symptoms of its *bite* are terrible. The eyes of the patient become red and fiery, his tongue swells to an immoderate size and obstructs his utterance, and delirium of the most horrid character quickly follows. Sometimes, in his madness, he attempts the destruction of his nearest friends. If the sufferer has a family, his weeping wife and helpless infants are not unfrequently the objects of his frantic fury—in a word, he exhibits to the life all the detestable passions that rankle in the bosom of a savage, and such is the *spell* in which his senses are locked, that no sooner has the unhappy patient recovered from the paroxysm of insanity, occasioned by the bite, than he seeks out the *destroyer* for the sole purpose of being *bitten again*.

I have seen a good old father, his locks as white as snow, his steps slow and trembling, beg in vain of his only *son* to quit the lurking place of the worm. My heart bled when he turned away, for I knew the fond hope that his son would be the 'staff of his declining years,' had supported him through many a sorrow.

Youths of Missouri, would you know the name of this reptile? It is called the *Worm of the Still.—Missourian.*

SEPTEMBER.

THE ADAMS SEAT, IN QUINCY, MASSACHUSETTS.

THE ADAMS HOUSES, AT QUINCY, MASSACHUSETTS.

The views of the Adams Houses, which we place before our readers, are taken from paintings made by Mrs. George Whitney, of Roxbury, in August, 1828. The vignette engraving represents the house in which John Adams, second President of the United States, spent the latter part of his life, in which he died, and in which his son, the Honorable John Quincy Adams, now resides. In the second plate the house marked 1 represents that in which John Adams was born, while it was owned and occupied by his father; the other, that in which John Quincy Adams was born.

The two latter houses are situated near the foot of Penn's Hill, in Quincy. Quincy was the first resting-place of the Adams family, as they came out from the Old World. Henry Adams was their progenitor, in this country. The epitaph on his monument, raised by President Adams, senior, in the Quincy burial-yard, is as follows: 'He took his flight from the dragon persecution in Devonshire, England, and alighted, with eight sons, near Mount Wollaston [Quincy.] One of the sons returned to England; and after taking time to explore the country four removed to Medfield and the neighboring towns; two to Chelmsford; one only, Joseph, remained here, and was an original proprietor in the township of Braintree, [that part of it now incorporated as Quincy].' This Joseph Adams had a son Joseph, who was the father of John Adams, who was the father of John Adams the President.

We have been favored with a sight of the deed by which Joseph Adams the second conveyed to his son John, the father of John Adams the President, the right-hand estate; which estate then extended through and embraced that at present owned and occupied by the two brothers Ebenezer and Josiah Adams. The deed is dated April fifth, 1731. It makes no mention of a house, whence it is concluded that the house now standing was not then built. As this John was married in December, 1734, it is conjectured that the house was built about that time. In this house, on the nineteenth of October, old style, 1735, was born John Adams, the man whose fame is so intimately connected with the history and fortunes of America, and with the dearest hopes of the civilized world.

The estate on the left hand of the plate was sold to John Adams, grandfather of John Quincy Adams, by John and Richard Billings, of Boston, tailors. The deed is dated thirteenth April, 1744, and represents the estate as comprising nine and a half acres of land, a house, and barn. Probably the house had been built but a few years, as general consent appears to have affixed an earlier origin to its companion. John Quincy Adams was born in this house, in July, 1767. In the garret was packed his valuable library, while he was minister at Russia. It was under the care of the Reverend Mr. Whitney, pastor of the First Congregational Society, who occupied the house from 1800 to 1804.

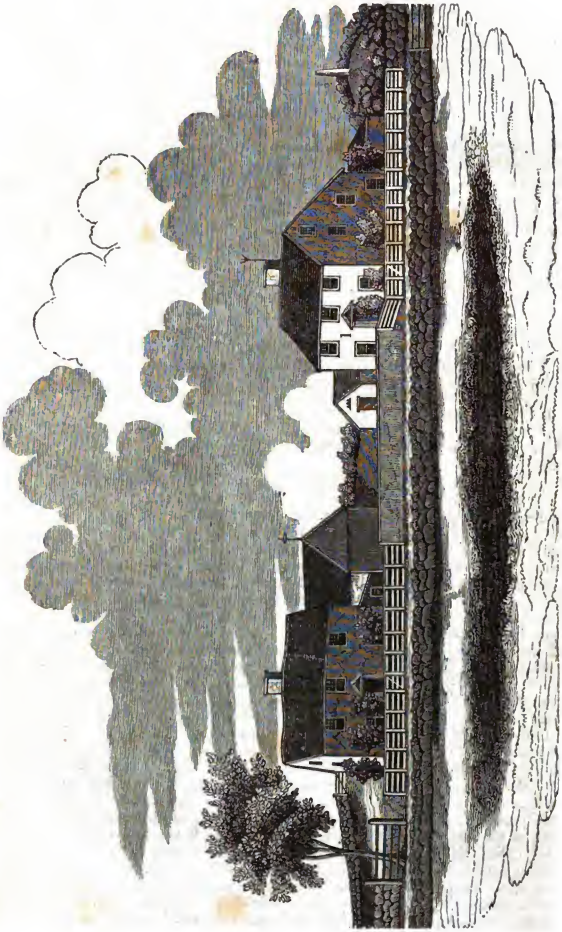
In this venerable-looking abode, shown on the right of the plate, passed the boyhood of the illustrious John Adams. Behind the house lies a meadow of some extent, with which is connected an anecdote he was wont himself to relate, to the last days of his life. We extract its narration from the History of Quincy, the author of which had heard it from his own lips. It is interesting as showing from what accidental circumstances often spring the most important changes in the lives and fortunes of distinguished men. We only premise, that when quite young, President Adams, senior, was but little attached to books. Study was to him an irksome task.

'When I was a boy I had to study the Latin grammar, but it was dull and I hated it. My father was anxious to send me to college, and therefore I studied the grammar till I could bear with it no longer, and, going to my father, I told him I did not like study, and asked for some other employment. It was opposing his wishes, and he was quick in his answer. "Well, John," said he, "if Latin grammar does not suit you, you may try ditching; perhaps that will. My meadow yonder needs a ditch, and you may put by Latin and try that."

'This seemed a delightful change, and to the meadow I went. But I soon found ditching harder than Latin, and the first forenoon was the longest I ever experienced. That day I eat the bread of labor, and glad was I when night came on. That night I made some comparison between Latin grammar and ditching, but said not a word about it. I dug the next forenoon, and wanted to return to Latin at dinner; but it was humiliating, and I could not do it. At night, toil conquered pride, and I told my father—one of the severest trials of my life—that if he chose I would go back to Latin grammar. He was glad of it; and if I have since gained any distinction, it has been owing to the two days' labor in that abominable ditch.'

His father, who owned this house, by trade a shoemaker, was a highly respectable citizen of Quincy. He was for some years town clerk, and transacted much of the town business. He was a deacon of the First Congregational Society, a man of earnest piety and stern integrity, and one much respected by his fellow-citizens. With him, his son continued in the school of Mr. Joseph Marsh, then a distinguished instructer in this place, till, in 1751, he entered Harvard University, at the age of sixteen.

We turn now to the vignette engraving. For our information on these matters we are indebted to the Honorable John Quincy Adams. He traces back the existence of this house only as far as the Revolution. Perhaps the registry of deeds would afford an earlier account. At that time it was owned by one Leonard Vassal Borland. He was a refugee; the estate was confiscated, and his family withdrew. The Honorable Judge Cranch, then a citizen of Quincy, was one of the commissioners for managing the confiscated estates; and while in his hands, Major General Joseph Palmer, of the Massachusetts militia, made the house his headquarters. Other individuals occupied the place till 1787, when a son of Mr. Borland returned and recovered it. The regular forms of confiscation



BIRTHPLACES OF THE ADAMSES, IN QUINCY, MASSACHUSETTS.

had not been complied with, and he sued out and took possession of it. He gave the deed, dated twenty-sixth September, 1787, by which it passed into the hands of John Adams. The estate comprised between eighty and ninety acres of land, and was sold for six hundred pounds lawful money. It was purchased by Dr. Tufts, of Weymouth, for John Adams, who was then in England. He returned in June, 1788, passed a few days with his family at Governor Hancock's, in Boston, came out to Quincy, and went into his house while still the workmen were repairing it. One old barn was standing, which was taken down by him. He erected the two stables, and an addition was made on the right end of the house in the year 1798. The house has been twice on fire—in the year 1804 or 1805, and in September, 1821, when it narrowly escaped entire destruction.

The vane which is seen on the mound in front of the house was placed there by President Adams senior, a few years before his death. It had been on one of the old churches of the Congregational Society with which he worshipped until the church was struck by lightning; and from his love of the relics of antiquity he had it placed where he could see it from the window of his chamber. It is supposed that the house was built about the year 1730.

The great men whom by this record we commemorate, belong not to the place of their birth, or to any portion of our country exclusively. Their action has been through a broader circle than to most men is granted. The principles they were born to maintain have been acknowledged, or are silently spreading through the civilized world. The name of the older Adams is almost synonymous with republican liberty. His life and character are bound up with our history; his mind is stamped on our institutions, whose birth he rejoiced to see, and whose progress he watched and cherished even to their maturity. The classic traveller, amidst the ruins of the Old World, pauses to muse by the tombs of the Scipios; he visits with enthusiasm the dwelling-places and the resting-places of earth's conquerors; and the shades of the departed are about him as he communes with the past. He stands in the villa of Cicero, whose trace almost two thousand years have not effaced;—the very room in which Cicero sat and thought and wrote! He looks with interest upon the tomb of Virgil, where lies 'the old unrivalled bard;' and again, in our own father-land, the very house is pointed out to him in which the immortal Shakspeare was born, and beneath the old church on the banks of the peaceful Avon is shown his grave. And why speak of the interest, the thronging associations which cluster about the venerable mansion and the shady tomb at our own Mount Vernon? It is not vain. Genius confers immortality on the spots with which it has been connected,—the very inanimate roofs, lowly though they be, beneath which it has been born and reared. This it is that has made Greece and Rome, the homes, wherever they are, of the philosophers, historians, and poets, of the orators, the sculptors, and painters, to be holy ground. And this it is for which we confidently expect, at no very distant day, that the venerable estates, whose remembrance we thus cherish, shall be visited and admired.

It has already been mentioned that the latter years of John Adams's life were passed in the house shown in the vignette engraving, and that there he died. The remarkable circumstance of his death and that of his copatriot and friend, Thomas Jefferson, on the fiftieth anniversary of our National Independence, is well known. Having lived to a glorious old age, he was called hence on the very day which above all days he would have chosen—that which his exertions had done so much to render, in his own words, 'a great and a good day.' He died at six o'clock in the afternoon of the fourth of July, 1826, in the ninety-first year of his age. Antiquarians, who look upon the engraving, may be pleased to discern the chamber in which he expired. It was the front middle chamber, whose windows are shaded by the chesnut tree. His remains lie entombed beneath the stone church which his munificence endowed, which stands within sight of the house, and in the interior of which is a monument to his memory, and a marble bust of him, both executed in Italy by our native sculptor Greenough. The estate is now in the hands and is the residence of John Quincy Adams. F. A. W.

EARTHQUAKE AT LISBON, IN 1755.

An eyewitness, in describing this dreadful calamity, says, there never was a finer morning seen than the first of November, 1755. The sun shone out in its full lustre, the whole face of the sky was perfectly serene and clear, and not the least signal or warning of that approaching event, which has made this once flourishing, opulent, and populous city a scene of the utmost horror and desolation, except only such as served to alarm, but scarcely left a moment's time to fly from the general destruction.

It was on the morning of this fatal day, between the hours of nine and ten, that I was set down in my apartment, just finishing a letter, when the papers and table I was writing on began to tremble with a gentle motion, which rather surprised me, as I could not perceive a breath of wind stirring. Whilst I was reflecting with myself what this could be owing to, but without having the least apprehension of the real cause, the whole house began to shake from the very foundation, which at first I imputed to the rattling of several coaches in the main street, which usually passed that way, at this time, from Belem to the palace; but on hearkening more attentively, I was soon undeceived, as I found it was owing to a strange, frightful kind of noise under ground, resembling the hollow, distant rumbling of thunder. All this passed in less than a minute; and I must confess I now began to be alarmed, as it naturally occurred to me that this noise might possibly be the forerunner of an earthquake, as one I remembered, which had happened about six or seven years ago, in the Island of Madeira, commenced in the same manner, though it did little or no damage.

Upon this I threw down my pen, and started upon my feet, remaining a moment in suspense, whether I should stay in the apartment, or run into the street, as the danger in both places seemed equal; and still flattering myself that this tremor might produce no other effects than such inconsiderable ones as had been felt at Madeira; but in a moment I was roused from my dream, being instantly stunned with a most horrid crash, as if every edifice in the city had tumbled down at once. The house I was in shook with such violence, that the upper stories immediately fell, and though my apartment, which was on the first floor, did not then share the same fate, yet every thing was thrown out of its place in such a manner, that it was with no small difficulty I kept my feet, and expected nothing less than to be soon crushed to death, as the walls continued rocking to and fro in the frightfulest manner, opening in several places, large stones falling down on every side from the cracks, and the ends of most of the rafters starting out from the roof. To add to this terrifying scene, the sky in a moment became so gloomy that I could now distinguish no particular object; it was an Egyptian darkness indeed, such as might be felt; owing, no doubt, to the prodigious clouds of dust and lime, raised from so violent a concussion, and, as some reported, to sulphureous exhalations, but this I cannot affirm; however, it is certain I found myself almost choked for nearly ten minutes.

As soon as the gloom began to disperse, and the violence of the shock seemed pretty much abated, the first object I perceived in the room was a woman sitting on the floor, with an infant in her arms, all covered with dust, pale and trembling. I asked her how she got hither; but her consternation was so great that she could give me no account of her escape. I suppose, that when the tremor first began, she ran out of her own house, and finding herself in such imminent danger from the falling of stones, retired into the door of mine, which was almost contiguous to hers, for shelter, and when the shock increased, which filled the door with dust and rubbish, ran up stairs into my apartment, which was then open; be it as it might, this was no time for curiosity. I remember the poor creature asked me, in the utmost agony, if I did not think that the world was at an end; at the same time she complained of being choked, and begged for God's sake I would procure her a little drink. Upon this I went to a closet where I kept a large jar with water, which you know is sometimes a pretty scarce commodity in Lisbon, but finding it broken in pieces, I told her she must not now think of quenching her thirst, but saving her life, as the house was just falling on our heads, and, if a second shock came, would certainly bury us both. I bade her take hold of my arm, and that I would endeavor to bring her into some place of security.

I shall always look upon it as a particular providence that I happened on this occasion to be undressed, for had I dressed myself, as I proposed, when I got out of bed, in order to breakfast with a friend, I should, in all probability, have run into the street at the beginning of the shock, as the rest of the people in the house did, and consequently have had my brains dashed out, as every one of them had. However, the imminent danger I was in did not hinder me from considering that my present dress, only a gown and slippers, would render my getting over the ruins almost impracticable. I had, therefore, still presence of mind enough left to put on a pair of shoes and a coat, the first that came in my way, which was every thing I saved, and in this dress I hurried down stairs, the woman with me, holding by my arm, and made directly to that end of the street which opens to the Tagus, but finding the passage this way entirely blocked up with the fallen houses to the height of their second stories, I turned back to the other end, which led into the main street, (the common thoroughfare to the palace;) and having helped the woman over a vast heap of ruins, with no small hazard to my own life, just as we were going into the street, as there was one part I could not well climb over without the assistance of my hands, as well as my feet, I desired her to let go her hold, which she did, remaining two or three feet behind me, at which time there fell a vast stone, from a tottering wall, and crushed both her and the child in pieces. So dismal a spectacle at any other time would have affected me in the highest degree, but the dread I was in of sharing the same fate myself, and the many instances of the same kind which presented themselves all around, were too shocking to make me dwell a moment on this single object.

I had now a long narrow street to pass, with the houses on each side four or five stories high, all very old, the greater part already thrown down, or continually falling, and threatening the passengers with inevitable death at every step, numbers of whom lay killed before me, or, what I thought far more deplorable, so bruised and wounded that they could not stir to help themselves. For my own part, as destruction appeared to me unavoidable, I only wished I might be made an end of at once, and not have my limbs broken, in which case I could expect nothing else but to be left upon the spot, lingering in misery, like these poor unhappy wretches, without receiving the least succor from any person.

As self-preservation, however, is the first law of nature, these sad thoughts did not so far prevail as to make me totally despair. I proceeded on as fast as I conveniently could, though with the utmost caution, and having at length got clear of this horrid passage, I found myself safe and unhurt in the large open space before St. Paul's Church, which had been thrown down a few minutes before, and buried a great part of the congregation, that was generally pretty numerous, this being reckoned one of the most populous parishes in Lisbon. Here I stood some time, considering what I should do, and, not thinking myself safe in this situation, I came to the resolution of climbing over the ruins of the west end of the church, in order to get to the river's side, that I might be removed as far as possible from the tottering houses, in case of a second shock.

This, with some difficulty, I accomplished; and

here I found a prodigious concourse of people, of both sexes, and of all ranks and conditions, among whom I observed some of the principal canons of the patriarchal church, in their purple robes and rochets, as these all go in the habit of bishops; several priests who had run from the altars in their sacerdotal vestments in the midst of their celebrating mass; ladies half dressed, and some without shoes. All these, whom their mutual dangers had here assembled as to a place of safety, were on their knees at prayers, with the terrors of death in their countenances, every one striking his breast, and crying out incessantly, *Miserecordia meu Dios.*

In the midst of our devotions, the second great shock came on, little less violent than the first, and completed the ruin of those buildings which had been already much shattered. The consternation now became so universal, that the shrieks and cries of *Miserecordia* could be distinctly heard from the top of St. Catherine's Hill, at a considerable distance off, whither a vast number of people had likewise retreated; at the same time we could hear the fall of the parish church there, whereby many persons were killed on the spot, and others mortally wounded. You may judge of the force of this shock, when I inform you, it was so violent that I could scarce keep on my knees; but it was attended with some circumstances still more dreadful than the former. On a sudden I heard a general outcry, 'The sea is coming in; we shall be all lost.' Upon this, turning my eyes towards the river, which in that place is nearly four miles broad, I could perceive it heaving and swelling in a most unaccountable manner, as no wind was stirring. In an instant there appeared, at some small distance, a large body of water, rising like a mountain. It came on foaming and roaring, and rushed towards the shore with such impetuosity, that we all immediately ran for our lives as fast as possible; many were actually swept away, and the rest above their waist in water at a good distance from the banks. For my own part, I had the narrowest escape, and should certainly have been lost, had I not grasped a large beam that lay on the ground, till the water returned to its channel, which it did almost at the same instant, with equal rapidity. As there now appeared at least as much danger from the sea as the land, and I scarce knew whither to retire for shelter, I took a sudden resolution of returning back, with my clothes all dropping, to the area of St. Paul's. Here I stood some time, and observed the ships tumbling and tossing about, as in a violent storm. Some had broken their cables, and were carried to the other side of the Tagus; others were whirled round with incredible swiftness; several large boats were turned keel upwards; and all this without any wind, which seemed the more astonishing. It was at the time of which I am now speaking that the fine new quay, built of rough marble, at an immense expense, was entirely swallowed up, with all the people on it, who had fled thither for safety, and had reason to think themselves out of danger in such a place; at the same time a great number of boats and small vessels, anchored near it, all likewise full of people who had retired thither for the same purpose, were all swallowed up as in a whirlpool, and never more appeared.

This last dreadful incident I did not see with my own eyes, as it passed three or four stone's throws from the spot where I then was, but I had the account as here given from several masters of ships, who were anchored within two or three hundred yards of the quay, and saw the whole catastrophe. One of them in particular informed me, that when the second shock came on, he could perceive the *whole* city waving backwards and forwards, like the sea when the wind first begins to rise; that the agitation of the earth was so great even under the river, that it threw up his large anchor from the mooring, which swam, as he termed it, on the surface of the water; that immediately upon this extraordinary concussion, the river rose at once near twenty feet, and in a moment subsided; at which instant he saw the quay, with the whole concourse of people upon it, sink down, and at the same time every one of the boats and vessels that were near it were drawn into the cavity, which he supposes instantly closed upon them, inasmuch as not the least sign of a wreck was ever seen afterwards. This account you may give full credit to, for as to the loss of the vessels, it is confirmed by every body; and with regard to the quay, I went myself, a few days after, to convince myself of the truth, and could not find even the ruins of the place, where I had taken so many agreeable walks, as this was the common rendezvous of the factory in the cool of the evening. I found it all deep water, and in some parts scarcely to be fathomed.

This is the only place I could learn which was swallowed up in or about Lisbon, though I saw many large cracks and fissures in different parts; and one odd phenomenon I must not omit, which was communicated to me by a friend who had a house and wine-cellars on the other side of the river, viz., that the dwelling-house being first terribly shaken, which made all the family run out, there presently fell down a vast high rock near it; that upon this the river rose and subsided in the manner already mentioned, and immediately a great number of small fissures appeared in several contiguous pieces of ground, whence there spouted out, like a *jet d'eau*, a large quantity of fine white sand, to a prodigious height.

I had not been long in the area of St. Paul's, when I felt the third shock, which though somewhat less violent than the two former, the sea rushed in again, and retired with the same rapidity, and I remained up to my knees in water, though I had gotten upon a small eminence at some distance from the river, with the ruins of several intervening houses to break its force. At this time I took notice the waters retired so impetuously, that some vessels were left quite dry which rode in seven fathom water. The river thus continued alternately rushing on and retiring several times together, in such sort, that it was justly dreaded Lisbon would now meet the same fate which a few years ago had befallen the city of Lima.

Perhaps you may think the present doleful sub-

ject here concluded; but, alas! the horrors of the first of November are sufficient to fill a volume. As soon as it grew dark, another scene presented itself, little less shocking than those already described—the whole city appeared in a blaze, which was so bright that I could easily see to read by it. It may be said, without exaggeration, it was on fire at least in a hundred different places at once, and thus continued burning for six days together, without intermission, or the least attempt being made to stop its progress.

I could never learn that this terrible fire was owing to any subterraneous eruption, as some reported, but to three causes, which all concurring at the same time, will naturally account for the prodigious havock it made. The first of November being All Saints Day, a high festival among the Portuguese, every altar in every church and chapel, some of which have more than twenty, was illuminated with a number of wax tapers and lamps, as customary. These setting fire to the curtains and timber work that fell with the shock, the conflagration soon spread to the neighboring houses, and being there joined with the fires in the kitchen chimneys, increased to such a degree, that it might easily have destroyed the whole city, though no other cause had concurred, especially as it met with no interruption.

But what would appear incredible to you, were the fact less public and notorious, is, that a gang of hardened villains, who had been confined, and got out of prison when the wall fell, at the first shock, were busily employed in setting fire to those buildings which stood some chance of escaping the general destruction.

The fire, by some means or other, may be said to have destroyed the whole city, at least every thing that was grand or valuable in it; and the damage on this occasion is not to be estimated.

The whole number of persons that perished, including those who were burnt or afterwards crushed to death whilst digging in the ruins, is supposed, on the lowest calculation, to amount to more than sixty thousand; and though the damage in other respects cannot be computed, yet you may form some idea of it, when I assure you, that this extensive and opulent city is now nothing but a vast heap of ruins, that the rich and poor are at present upon a level, some thousands of families, which but the day before had been easy in their circumstances, being now scattered about in the fields, wanting every conveniency of life, and finding none able to relieve them.

A few days after the first consternation was over, I ventured down into the city by the safest ways I could pick out, to see if there was a possibility of getting any thing out of my lodgings, but the ruins were now so augmented by the late fire, that I was so far from being able to distinguish the individual spot where the house stood, that I could not even distinguish the street, amidst the mountains of stone and rubbish which rose on every side. Some days after, I ventured down again with several porters, who, having long plied in these parts of the town, were well acquainted with the situation of particular houses. By their assistance, I at last discovered the spot; but was soon convinced, that to dig for any thing there, besides the danger of such an attempt, would never answer the expense.

On both the times when I attempted to make this fruitless search, especially the first, there came such an intolerable stench from the dead bodies, that I was ready to faint away, and though it did not seem so great this last time, yet it had nearly been more fatal to me, as I contracted a fever by it, but of which, God be praised, I soon got the better. However, this made me so cautious for the future, that I avoided passing near certain places, where the stench was so excessive that people began to dread an infection. A gentleman told me, that going into the town a few days after the earthquake, he saw several bodies lying in the streets, some horribly mangled, as he supposed, by the dogs, others half burnt, some quite roasted; and that in certain places, particularly near the doors of churches, they lay in vast heaps piled one upon another.

RUBY-THROATED HUMMING BIRD.

From Wilson, Nuttall, and Audubon, we learn that the Ruby-throated Humming Bird, or *Trochilus colubris*, is the only one of an American genus, of more than one hundred species, which ventures beyond the limits of the tropical climate. Its progress to the north is regulated by the advances of the season and the opening of the flowers. It is sometimes seen in Louisiana as early as the tenth of March, though it does not make its appearance in the Northern States till the month of May. It may be seen visiting every opening flower-cup, and, like a curious florist, removing from each the injurious insects that ere long would otherwise cause their beauteous petals to droop and decay. Its long, delicate bill enters the cup of the flower, and the protruded, double-tubed tongue, delicately sensible, and imbued with a glutinous saliva, touches each insect in succession, and draws it from its lurking place, to be instantly swallowed. The prairies, the fields, the orchards, and gardens, nay, the deepest shades of the forests, are all visited in their turn, and everywhere the little bird meets with pleasure and food. Its gorgeous throat in beauty and brilliancy baffles all competition. Now it glows with a fiery hue, and again it is changed to the deepest velvety black. The upper parts of its delicate body are of resplendent changing green; and it throws itself through the air with a swiftness and vivacity hardly conceivable. It moves from one flower to another like a gleam of light, upwards, downwards, to the right and to the left.

The first cares of these little birds, upon their arriving at the north, are for their expected progeny. The attentions of the male to the female are now assiduous. How he swells his plumage and throat, says Audubon, and, dancing on the wing, whirls around the delicate female; how quickly he dives towards a flower, and returns with a loaded bill, which he offers to her, to whom alone he feels desirous of being united; how full of ecstasy he seems to be when his caresses are

Ruby-throated Humming Bird.

kindly received; how his little wings fan her, as they fan the flowers, and he transfers to her bill the insect and the honey which he has procured with a view to please her; how these attentions are received with apparent satisfaction; how, soon after, the blissful compact is sealed; how, then, the courage and care of the male are redoubled; how he even dares to give chase to the Tyrant Fly-catcher, hurries the Bluebird and the Martin to their boxes; and how, on sounding pinions, he joyously returns to the side of his lovely mate. Reader, all these proofs of the sincerity, fidelity, and courage with which the male assures his mate of the care he will take of her while sitting on her nest, may be seen, and have been seen, but cannot be portrayed or described.

The puny nest is now prepared in the long-accustomed orchard or neighboring forest. It is of the most delicate nature, the external parts being formed of a light gray lichen found on the branches of trees, or on decayed fence-rails, and so neatly are ranged round the whole nest, as well as to some distance from the spot where it is attached, as to seem part of the branch or stem itself. These little pieces of lichen are glued together with the saliva of the bird. The next coating consists of cottony substance, and the innermost of silky fibres obtained from various plants, all extremely delicate and soft. On this soft bed the female lays two eggs, and two only, which are pure white and almost oval. Ten days are required for their hatching, and two broods are raised in a season. When the young are hatched they are but little larger than humble-bees, naked, blind, and so feeble as scarcely to be able to raise their little bill to receive food from the parents. Upon a person's approaching the nest, the parent birds manifest the greatest anxiety, passing and repassing within a few inches of his face, alighting on a twig not more than a yard distant. The young are ready to fly in a week, but are fed by the parents for nearly another week, receiving their food directly from the bill of their parents, which disgorge it in the manner of Canaries or Pigeons. The brood is introduced into life in the warmest season of the year, and so delicate is the species that any sudden extreme in the weather is fatal to them.

The Ruby-throated Humming Birds are particularly fond of tubular flowers, such as those of the Thorn-apple and the Trumpet-flower; but every flower, down to the wild violet, affords them a certain portion of sustenance. Sometimes they may also be seen collecting diminutive insects or juices, says Nuttall, from the tender shoots of the pine-tree. While thus engaged in swarms, as they sometimes are, the scene is peculiarly amusing. Approaching a flower, and vibrating on the wing before it, with the rapidity of lightning, the long, cleft, and tubular tongue is exserted to pump out the sweets, while the buzzing or humming of the wings reminds us of the approach of some larger sphinx or droning bee. No other sound or song is uttered, except occasionally a slender chirp while flitting from a flower, until some rival bird too nearly approaches the same plant; a quick, faint, and petulant squeak is then uttered, as the little glowing antagonists glide up in swift and angry gyrations into the air. The action, at the same time, is so sudden, and the flights so rapid, that the whole are only traced for an instant, like a gray line in the air. Sometimes, without any apparent provocation, the little pugnacious vixen will, for mere amusement, pursue large birds, such as the Yellow Bird and Sparrows. To man they show but little either of fear or aversion, quietly feeding on their favorite flowers often when so nearly approached as to be caught. They frequently enter the greenhouses and windows of dwellings where flowers are kept in sight. After feeding, for a time, the individual settles on some small and often naked bough or slender twig, and dresses its feathers with great composure, particularly preening and clearing the plumes of the wing.

The old and young, in an hour after being made captive, will often come and suck diluted honey, or sugar and water, from the flowers held out to them. It seems that they cannot live long unless supplied constantly both with fresh flowers and insects; and they are so exceedingly sensitive to cold, that no instance is known of any one having lived through the winter as far north as the Middle States, whatever precautions may have been taken to make it comfortable. They visit the extreme northern portions of our country, following with great precaution the advances of the season, and retreating with equal care at the approach of autumn.

The Humming Bird is only three inches and a half in length, and four and a quarter in alar extent. The bill, legs, feet, and eyes are black. The feathers of the breast in the male, according to the light in which they are viewed, vary from a deep brownish black to a fiery crimson or glowing orange. In the young birds the bill is broader and shorter, and traces of the rigid, metallic, glossed feathers begin to appear on the throat towards the close of autumn. At first the chin for a little space is palish yellow.

Court House, Woodstock, Vermont.

COURT HOUSE, WOODSTOCK, VERMONT.

The Court House in Woodstock was planned and built under the supervision of Ammi B. Young, Esquire, an architect of Vermont, who has risen by his own exertions to great eminence, and is an enthusiastic devotee to his calling. It is situated on the northerly side of a beautiful park, in the midst of a delightful rural village. The front consists of a portico of four columns, of the Grecian Doric order, with entablatures and pediment to correspond, all of the chastest proportions. This is surmounted by a belfry, standing on a pedestal, the base of which is made, apparently, to rise from the top of the horizontal cornice below the pediment; by making a slight break in the tympanum of the pediment; thus obviating, in appearance, a defect much complained of by architectural critics, of setting a belfry astride the ridge of a Grecian pediment. This break, being made to correspond to the outside of the two central columns, gives the belfry the appearance of being supported from the foundations of the building. On this pedestal is the belfry, which consists of a circular colonnade or peristyle of eight Grecian Ionic columns, with circular entablature and blocking course, above which is a circular attic, covered with a small domical roof, terminated by a *finale* ornament, gilt. The building has a classical chasteness in its exterior appearance seldom attained. We take great pride in bringing to the notice of our readers such men as Mr. Young, and we have no doubt, from the reputation which he has gained at a very early period in life, that he will do honor to the architecture of that part of the country where he resides, and leave monuments of his taste which will be admired by posterity for their beauty.

VISIT TO AN INDIAN VILLAGE.

The other day we visited a settlement of the Creek Indians, distant twelve or fourteen miles across the river, west of Chattahoochee. The name of the town I could not ascertain with precision enough to venture to put it on paper. We crossed the Apalachicola river at Chattahoochee in a flat-boat, and on reaching the opposite bank remounted our horses and galloped for several miles along the banks of the Chattahoochee. You will remember that the Apalachicola river is formed by the junction of the Flint and Chattahoochee, about half a mile above the town of Chattahoochee. The road for some distance was through a thick forest, which, however, afforded us occasional glimpses of the river on our right. After riding several miles on this road, we turned suddenly into a bridle-path or trail, which led us through woods, and cane-brakes, over dry land and wet, to some miserable-looking huts. This part of the Indian town, which was now deserted, we passed, and soon came to the inhabited village, which consisted of a few huts, scattered here and there, without any attempt at regularity. We were in search of one of the chiefs, by name Joe Riley, who acts as interpreter.

After several unsuccessful calls at different huts, where we were witnesses to brutal intoxication, and also to the perfect nakedness of some of the papooses, we found the subject of our inquiries. He keeps a small shop, and lives very much like the white men around him, in a log house; and was apparently a man of intelligence and education. When we arrived, there were three or four Indians squatted down by a fire, boiling hominy, or *sofka*, as they pronounced it. One of the Indians was a remarkable *looking* man, though I did not hear that he was in any other way notable. He was about six feet high, his limbs finely formed, his complexion of the usual copper hue, and his hair jet black. On his head he wore a turban, and over his shoulders a blanket; the rest of his body being bare excepting his feet, which were covered with moccasins. He strongly reminded me of the pictures of the Moors, and the resemblance was heightened by his wearing a mustache, which is not customary among them; but he was a sullen, sinister-looking fellow. Some of the young men had their hair cut off close to their heads, excepting one long tuft on the top. They are generally averse to speaking English, and prefer talking among themselves.

These Indians have a peculiar method of applying their lips to a bottle, by which they are able to take a swallow that would suffocate a white man. I gave one of them a drink of whisky, for the sake of hearing him give the yell. He made a dreadful noise; but it wanted the accompaniment of danger to make it terrible; it was merely such a yell as a man would give when highly enraged and bent on mischief. Here was the only pretty Indian girl I saw. She was small in stature, but as straight as an arrow; her hair, of which she seemed quite proud, was very thick and carefully braided, but it was very coarse; and she was dressed somewhat after the fashion of the whites. She was, however, very modest in her deportment, which could not be said of all of them; and I was quite amused at the manner in which she repulsed several attempts at gallantry offered by some of the party. After partaking of some egg-nogg, which, by the way, is a *food* I can recommend to all who are making journeys on foot or on horseback, as being both light and nourishing, we remounted our horses and rode back to Chattahoochee.

While looking at these Indians I tried in vain to recognise in them the 'noble savage' of our novel writers. If they were what Cooper describes them, we may exclaim,

> 'In all, save form alone, *how* changed!'

I remember once, in Chattahoochee,—it was the first time I had seen any real wild Indians,—the feeling of curiosity and of respect with which I was impressed. I remembered the many stories I had read of these sons of the forest, their lofty spirit, their chivalrous daring, their dignity, and their silent, solemn gaze upon the innovations of the 'Pale Faces;' but when one of their chiefs, having a splendid form, came up and *begged* some money to buy drink because he was *sick*, I could scarce restrain my feelings of pity and contempt.

I am inclined to think that Washington Irving has given a truer portrait of the Indians of the present generation than any other writer. They are silent and dignified among white men, but, judging from their winks and ill-suppressed laughter when we were in their village, I think that this silence and solemn demeanor arise more from their ignorance of our language, and distrust perhaps of ourselves, than any other cause. The use of the bow and arrow among them has long been superseded by the rifle and smooth bore. They are, according to the reports of some who have been engaged in fighting them, extremely good marksmen; others say that their first shot in action is always the best. I never saw them shoot, but if they can shoot better than some of the Georgians who have fought them, and whose skill I have witnessed, then our crack shots, so called, can no longer plume themselves upon their candle-snuffing exploits. The courage of the Indians is not highly esteemed by those who have met them face to face. They are furious and dangerous when excited, but not courageous. Their fortitude in submitting to torture and death has shed a false glory around their character. This fortitude, when suffering and death are inevitable, is a part of their religion, or, rather, it is instinct. C.

JOHN MAZEPPA.

John Mazeppa was born in Podolia, a province in the south-eastern part of Poland. He seems to have been descended from one of the many noble families which had fallen from their ancient wealth and consequence, by the late misfortunes of their country. Being obliged to seek employment in some one of the more wealthy families, he became page to one John Casimir. Casimir was fond of

MAZEPPA BOUND UPON THE WILD HORSE.

the arts and literature; and in his family the young Mazeppa seems to have had and improved an opportunity for acquiring many useful accomplishments, which afterward became of signal service to him. His conduct towards the Countess Palatine excited the count's jealousy. There was no doubt of his guilt, and the count bound him, naked, in revenge, upon a wild horse, and committed him to his fate. The horse was from the Ukraine, an extensive country in the south-eastern part of Russian Poland, and he directed his course thither. Mazeppa was found by some poor peasants, half dead, and they took care of him.

He remained there a long time, became distinguished for his dexterity, bodily strength, and courage, so much so that he was successively chosen secretary and adjutant to the Hettman Samoilowitz; and finally, in 1687, he succeeded Samoilowitz in the office of Hettman or chief general of the Cossacks. He gained the confidence of Peter the Great of Russia, and received from him many honorable marks of distinction. Peter finally made him prince of the Ukraine.

One day, while at the table with Peter, at Moscow, the czar expressed to him a desire that he would so discipline the Cossacks as to make them more dependent upon his will. Mazeppa replied that the situation of the Ukraine and the genius of that people were insurmountable obstacles to it. The czar, who was somewhat heated with wine, called him a traitor and threatened to empale him. Unwilling to be in subordination, and perhaps indignant at such treatment, he determined to free himself from the Russian powers. He joined Charles the Twelfth of Sweden, who had just set a king over Poland. With Charles's assistance he hoped to withdraw himself from his allegiance to Peter the Great, and, under certain conditions, unite his country, the Ukraine, to Poland. Peter was at first unwilling to believe that Mazeppa could have any such plans in view. He sent the accusers to Mazeppa himself for punishment, and he had the audacity to cause them to be executed. Peter, however, became convinced of the truth of the charges, and many of Mazeppa's partisans were put to death, and the prince himself hung in effigy. With a few adherents he joined Charles the Twelfth, and took part in the campaign of the Ukraine which followed. He was with Charles at his defeat at Pultowa. It is on their retiring from this battle that Byron has introduced him in his poem called 'Mazeppa,' where he gives a thrilling account of the sufferings, both physical and mental, which he underwent while bound to the wild horse, when the ravenous wolves pursued him all night, and when,

> "between him and the sun,
> He saw the expecting raven fly,
> Who scarce would wait till both should die,
> Ere his repast begun.'

After the defeat at Pultowa, Mazeppa fled to Bender, a fortified town of Russia, near the Black Sea, where he died, in the year one thousand seven hundred and nine. His precise age is not known.

THE ONLY SON'S LAST HOURS.

Affection's gentle hand the portal swung;
The tone of welcome and the tearful eye,
The care-worn, anxious look, the curtained light,
The slow and easy tread, the deep-heaved sigh,
The solemn silence which the busy clock
Unheeding broke, all told of sickness there.
An only son was sleeping on the couch.
I saw the hectic, harbinger of death;
The wasting cough and weary breathing heard,
'Mid unconnected words and wandering thoughts
And troubled dreams. Anon the storm cleared up;
The troubled soul shone through the flitting clouds,
Like golden sunlight through autumnal showers,
And spread a pensive pleasure o'er the scene.

He spoke of death, and called me to his side
To talk about the mansions in the skies.
We holy converse held at intervals
Till deepest night, till angel hosts had hung
Their starry lights o'er all the universe,
His mental vision calmly fixed on heaven.
But when from heaven to earth his vision glanced,
He said, '"T is hard to bring my mind to die;
To leave my father, mother, sister now;
To leave the world so young; but yet God's will
Be done. I pray an easy death.' And as
He talked, I heard no faltering in his voice;
No tear stood trembling in his eye, save once
Methought he raised his finger, dashed away
One, then talked on as calm as he was wont.

He called his parents to his side, conversed
Awhile with them, some little gifts arranged,
With slender fingers, for his friends, bequeathed
His mother's gift, the Bible, to his sick
And only sister, lifted his weak arms
Around his bending father's neck, and said,
'Oh, father, you've been good to me; 't is hard
To leave you; but you know that I must go
Where spirits dwell;—we soon shall meet again.'

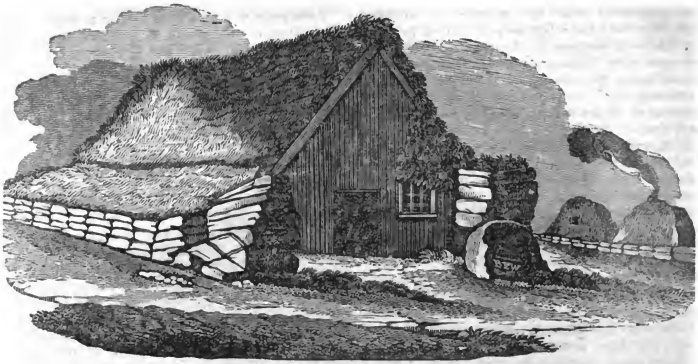
Death's winged messenger drew near. Around
His bed stood father, mother, sister, friend,
With aching hearts beholding every breath
That struggled forth amid convulsions, till
His spirit cried, *Oh mother!*—and was gone.

Abiding as he asked, I closed his eyes,
And saw him robed in white. Around the bier
A crowd of friends assembled, knelt in prayer,
And parents, sister, lingering took their leave;—
When lo! two little children whom he loved,
And who had often run to meet him, came
And asked once more to see him, thinking still,
Perhaps, that he would smile on them as he
Was wont. Companions then the body bore
And placed it in the bosom of the earth
Beside three sleeping brothers, tenants there;—
Meanwhile an angel took the spirit home.

Ye winds that curl the billows of the sea,
Say if his spirit passed you on your way?
Ye lightnings, earthquakes, tempests, storms, have ye
A spirit, guided by an angel, seen,
While ye were sporting with the elements?
O tell me, sun and stars that stand upon
The distant sky like sentinels, if aught
Reveals his home among the blessed?
Thou sainted spirit, where art thou? Dost thou
In distant regions roam, or, hovering round
Us still, unseen, in all our pleasures join?

Faith speaks,—'I know that my Redeemer lives;
Pure spirits dwell around Jehovah's throne.
The righteous soon shall meet each other there,
In mansions Jesus has prepared for them
That love him, where the weary are at rest.

J. L. S.



Danish Church of Thingvalla, in Iceland.

CHURCH OF THINGVALLA, ICELAND.

The cut which we give above affords a specimen of the church architecture of Iceland. Thingvalla is an obscure place, now of very little note, but about a century ago was the seat of a general court of justice. It was visited in 1834 by John Barrow, jun., who has published an account of his visit to Iceland, and who, for the want of better accommodations, slept in the church above represented. We asked, he says, and obtained permission to occupy the church for the night, which we had the less scruple in doing, as we had heard that it was the usual, and, in fact, the only spot that travellers had any choice of, for passing the night. Accordingly our horses were unpacked and turned out loose till the morning, and our saddles and boxes were deposited in the aisle of the church, where there was just room enough to receive them. The dimensions were indeed small enough, and every part was crowded with various kinds of stores, such as clothing, provisions, barrels of fish, a huge sidesaddle, such as is used by ladies, and a quantity of wool. When to these were added our own chattels, the aisle was nearly impassable.

As this building, consecrated to religious purposes, was altogether different from any I had before seen, curiosity led me to take its dimensions. The extreme length was twenty-three feet, but of this eight feet were devoted to the altar, which was divided off by a partition stretching across the church, and against which was placed the pulpit. Over the pulpit were the following Latin inscriptions:

'SCIO OPERA TUA.'*
'HABENTI DABITUR.'

A small wooden chest or cupboard, placed between two very small square windows at the end of the building, not larger than a common-sized pane of glass, constituted the communion-table, over which was a miserable representation of the Lord's Supper, painted on wood, and apparently of great antiquity. The width of the church was ten feet, and the height of the walls about six feet. These were wainscotted, and from them large wooden beams stretched across from side to side. On these beams were placed, in great disorder, a quantity of old Bibles, psalters, and fragments of dusty manuscripts. The interior of the roof, the rafters of which rested on the walls, was also lined with wood. On the right of the door as we entered, and under which we were obliged to stoop considerably, we remarked two or three belts suspended from the beams within reach. Four or five benches with backs to them, so crowded together as almost to touch one another, were placed on each side the aisle, a narrow passage being left between them. There were also some benches placed against the wainscotted walls, round that part which formed the altar. The accommodation was said to be sufficient for forty people; but I am quite at a loss to imagine how they could all find seats, or even room to stand. It is not, however, often, if ever, that the church is so crowded, as the number of inhabitants living in the immediate neighborhood is very small—not above twelve or fourteen families in the whole parish.

* 'I know thy works.'
'To him that hath, shall be given.'

SECOND FRENCH COLONY IN THE UNITED STATES.

[Continued from page 427.]

The wind was fair and the colonists were on the point of embarking, on the 28th of August, when they descried vessels at sea. It appears that some of the persons, who had returned to France, in Laudonnière's ships, in 1562, had made assertions prejudicial to Laudonnière; and that Ribault, who had visited the country formerly, had been appointed to supersede him. He brought with him various supplies, domestic animals, seeds, implements of husbandry, emigrants with their wives and children; and the hearts of the Huguenots

were gladdened with the prospect of having a home, free from the religious persecution to which they had been exposed on their native soil. But they were soon doomed to disappointment. One week of great joy passed. But, on the fourth of September, six large Spanish ships, under the command of Melendez, anchored in the road-stead where four of the largest French ships remained. Spain had never relinquished her claim to the territory which had been discovered and formally taken possession of by Ponce de Leon, in 1512. Melendez had incurred reproach in Spain, and, desirous of retrieving his honor, acceded to a proposition to conquer, explore, and establish a colony in Florida, at his own cost, and he also received the promise of valuable remunerations.

Meanwhile the Spanish had become acquainted with the circumstance that a colony of Huguenots was established by the French on the soil which they claimed, and that Ribault was expected to sail in a few days to their relief. In the bigotry and intolerance common in those days, the cry was raised that the heretics must be exterminated; and Melendez readily obtained, through the spirit of fanaticism, all the forces he desired. More than 2600 persons accompanied him. He arrived at Porto Rico with one third part of his forces, the rest having been scattered in a storm, and, without waiting for them, set sail for Florida. He discovered the river of Dolphins, which he named St. Augustine, in remembrance of the saint, on whose day he came on the coast. Having learned from the Indians where the French colony was established, he directed his course to Fort Caroline, and arrived in the road, as we have already said, on the fourth of September. The French demanded his name and objects. He replied that he was Pedro Melendez, and that he had come with strict orders from the king to hang and cut the throats of all Lutherans, without exception. 'If I find a Catholic,' said he, 'he shall be well treated, but every heretic shall die.' The French cut their cables and put to sea. The Spaniards, after an unsuccessful pursuit, put into St. Augustine. The French, having discovered where they had gone, returned to Fort Caroline. Ribault called a council to consider the expediency of going to attack them. The council decided in the negative, and urged the importance of immediately putting the fort in the strongest possible state for defence. Ribault would not agree to the proposition. He was led from appearances to suppose that the Spaniards meant to establish themselves at St. Augustine, and consequently that they would be continually annoying the colony at Fort Caroline, unless they were exterminated. He produced, moreover, in justification of his purpose, a letter from Admiral Coligny, containing these words: 'As I was enclosing up this letter, I received a certaine advice, that Don Pedro Melendez departeth from Spaine to goe to the coast of Newe France; see you that you suffer him not to encroch upon you, no more then he would that you should encroch upon him.' He accordingly left the road, with the principal part of the forces, on the tenth, intending to go and attack them.

Laudonnière was left sick with a fever. Soon after Ribault's departure he deemed it necessary to take measures to put the fort in a state for defence. Upon mustering his men he says, 'I found nine or ten of them whereof not past two or three had ever drawen sword out of a scabbard, as I thinke. Of the nine there were foure but yong striplings, which served Captaine Ribault and kept his dogs, the fift was a cooke: among those that were without the fort, and which were of the foresaid company of Captaine Ribault, there was a Carpenter of threescore yeeres olde, one a Beerebrewer, one olde Crosse-bow maker, two Shoomakers, and four or five men that had their wives, a player on the Virginals, two servants of Monsieur du Lys, one of Monsieur de Beauhaire, one of Monsieur de la Grange, and about fourescore and five or sixe in all, counting as wel Lackeys as women and children. Those that were left of mine owne company were about sixteene or seventeene that could beare armes, and all of them poore and leane: the rest were sicke and maymed in the conflict which my Lieutenant had against Utina.' Such was the state of the forces, when the Spaniards made their appearance before the fort, on the twentieth of the month.

When Melendez put into St. Augustine, after his unsuccessful pursuit of the French fleet, it was the evening before the celebration of the nativity of the Virgin Mary by the Catholics. At noonday of the festival itself he went on shore, took possession of the continent in the name of Philip II., and, after mass said, immediately laid the foundation of the city of St. Augustine, which is forty years older than any other town in the United States, and where houses are yet standing, which are said to have been built many years before Virginia was colonized. The Spanish ships suffered in the gale which shipwrecked Ribault's, but the troops at St. Augustine were safe. They were not ignorant of the defenceless state of the French colony, and a Frenchman was bribed to guide Melendez and his soldiers to the river of May. In their religious fanaticism and soldierly indifference to obstacles, they proceeded in a terrible rain-storm, through thickets, swamps, and forests, and arrived at Fort Caroline a little before sunrise, as we have said, on the twentieth of September.

The alarm was given; but, in consequence of the suddenness of the assault and the character of garrison, no important opposition was made. Men, women, and children, the aged and the infirm, were massacred almost indiscriminately. Cardenas says orders were given that, under pain of death, no woman, nor child under fifteen years of age, should be wounded or killed. But this order was not given till the battle had been long raging; and the fanatical soldiers, who thought they were doing God service by exterminating the heretics, were hardly to be expected strictly to comply with it. About two hundred persons were killed. A few escaped into the woods, among whom was Laudonnière. Six of the French gave themselves up, and were immediately put to death. Laudonnière and the others, seeing no way of escape but by reaching the ships, proceeded through the reeds

in the water, till, becoming exhausted and unable to go further, Laudonnière sent two of his company, who were expert swimmers, to the ships to make known what had taken place, and to solicit aid. The messengers were unable to come within hailing distance till the next day, and Laudonnière was obliged to pass the night, standing in the water up to his shoulders, with one of the soldiers, who rendered him assistance the latter part of the time, by embracing him with both arms and holding him up.

Three ships, which had not gone to attack the Spanish at St. Augustine, in the mean time had got information respecting the fate of the colonists at the fort, and were sailing along the shore to pick up such Frenchmen as they might find. As soon as the messengers hailed them, a shallop was despatched for Laudonnière; five or six persons took him and carried him into it; after which eighteen or twenty other fugitives were picked up and transferred to the vessels. The boat was again despatched, and, upon returning, the mariners reported that James Ribault, (the son or nephew of John Ribault,) 'which was in his ship about two muskets-shot distant from the fort, had parled with the Spaniards, and that Francis Jean,' who was one of the persons that had previously carried off the barks, and had conducted Melendez from St. Augustine to the fort, 'came unto his ship,' and was nevertheless permitted to escape. The vessel which had been bought of Sir John Hawkins was abandoned for want of men, and James Ribault, refusing to search for John Ribault, set sail for France, in company with Laudonnière, on the twenty-fifth of September. They separated the next day, and Ribault was shipwrecked; Laudonnière landed in Wales, where he remained for a long time, dangerously sick. Afterwards, he says, 'I departed from Swansey, and came that night with my company to a place called Morgan, where the Lord of the place, understanding what I was, stayed me with him for the space of six or seven dayes, and at my departure, mooved with pitie to see me go on foot, especially being so weake as I was, gave me a little Hackny.' He proceeded to Bristol, London, and passed over to France in the beginning of the year 1566, where being coolly received by the king, he returned to his family, and died in retirement.

But to return to Fort Caroline. The French who were made prisoners, as well as those who gave themselves up, were hung. After the carnage was completed, mass was said, a cross was raised, and the site for a church selected, on ground still smoking with the blood of the French colony. Melendez returned to St. Augustine very soon after; and as the storm continued, he suffered almost incredible hardships in passing through the country. The Spanish deserters, in order to conceal their own shame, had circulated the story that he had perished, with all his company. His approach was announced by two soldiers in advance, and the people passed from extreme consternation to excessive joy. They all went out to meet the vanquisher of heretics, with the cross and the clergy, singing the *Te Deum*, and he was received in triumph. He soon became anxious to learn the fate of the French fleet, which had been fitted out to attack the Spanish at St. Augustine. His fears, however, were soon quieted. The tempest, which continued till the twenty-third of September, had shipwrecked them on the rocks fifty leagues to the south of him. Nearly all of the men were saved, though with difficulty. The French writers* say that Ribault made an effort to pass by land to Fort Caroline. At length he found a shallop, which had been abandoned, and, having fitted it out, despatched it to the fort, to ascertain the state of affairs. The officer whom he sent went near enough to discover the Spanish flag. His return with this sad news threw them all into confusion; and, after a long time, two officers were sent to the Spanish commander to ascertain what treatment they might expect from him upon their giving themselves up. He gave them such assurances of mercy that they finally went forward to surrender themselves. They were received by the Spaniards in such parties as a boat could carry across the river. As soon as they stepped upon the bank, their hands were tied behind them. Ribault and one other were conducted into the fort, and demanded an audience with the Spanish general, in respect to such treatment; but the Spanish general was not to be seen. A moment afterward a soldier asked Ribault if he was the French general, and he replied in the affirmative. 'Have you not always maintained that those who were under your orders, should obey you exactly?' said the soldier. 'To be sure,' replied Ribault, not comprehending the tendency of his question. 'Then you must not think it strange that I execute also the order which I have received from my commander,' and plunged a poniard into his heart. His companion was addressed and treated in the same way by another soldier. This was the signal for the garrison, who fell upon them and killed them instantaneously. Such was the fate of each party as it approached the fort; a signal was given, and amidst the sound of trumpets and drums, the Spaniards fell upon the unhappy men, who had confided in their humanity, and who could offer no resistance. A few Catholics were spared, a few mechanics were reserved as slaves. Some say, though without much probability, that Ribault was flayed alive, and his skin sent to Spain.

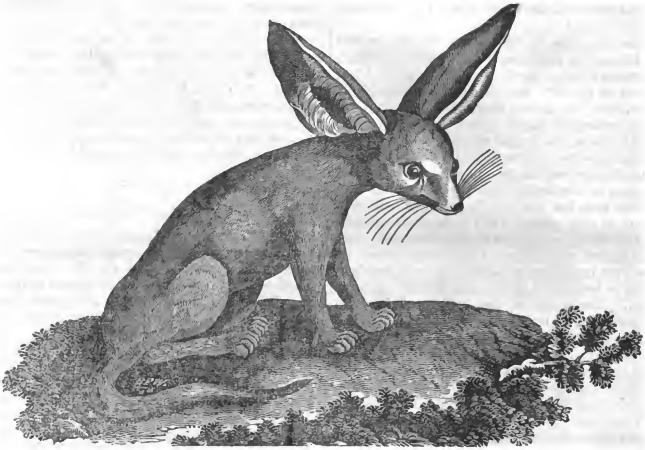
We have given the French version of the fate of their countrymen. The Spanish writers differ in many particulars. And though we are induced to believe that each nation may have overstated its own humanity, as well as the inhumanity of the other, there can be no doubt of the truth, that this

* We have prepared this sketch with the Spanish, French, and English accounts before us; but there is so much contradiction between the French and Spanish writers, those of each nation strenuously defending the conduct of their own countrymen and criminating the others', that it is not probable, after all the pains we have taken, that we have always arrived at the exact truth. We have heard that the Hon. Mr. White, late member of Congress from Florida, is pursuing the investigation of the early history of the section of the country where he resides, with a praiseworthy perseverance and spirit of research, which we have no doubt will throw new light upon this subject.

massacre was marked by such circumstances of cruelty as could never be justified by the laws of nations, or personal animosities, or the spirit of Christianity. Laudonnière ascribes the disasters and ruin of the colony to the long delay of Ribault in embarking, and the fifteen days spent by him in roving along the coast of Florida, before he came to Fort Caroline. More blame, however, is thought due to those courtiers of France, who gave the Spaniards such sure advices of the proceedings of the French government, that Melendez appears to have had a certain knowledge of the expedition of Ribault, and to have followed closely after him to Florida.

In a supplicatory epistle to the king of France it is affirmed, that more than nine hundred men, women, and children perished in the horrible massacre in Florida. The petition was in behalf of the widows and orphans and other relations of the deceased; and while it supplicated for their relief, it solicited a restoration of the territory to the French. Whatever was done for the relief of the Huguenots, there was no public demand of restitution. The French nation, however, did not share in the apathy of the French government, and measures of retaliation were taken not long after by Dominic de Gourgues.

Dominic de Gourgues was a nobleman of Gascony. There were few men of his rank in France, or indeed in Europe, who had acquired greater reputation in war, or who had experienced more reverses of fortune. He had served against Spain, and been captured and put in chains to serve as a galley slave. The galley in which he labored in this capacity was taken by the Turks, and after a season retaken by the galleys of Malta, and thus he obtained his liberty. He subsequently went to Africa, Brazil, and the West Indies. He burned with the desire to avenge his own wrongs and those of his country. He determined to drive the murderers of his countrymen out of America. He sold his private property, procured loans, and, fitting out three ordinary vessels at his own expense, and without orders, set sail on the twenty-second day of August, 1567, with one hundred and fifty soldiers and volunteers, and eighty chosen mariners. He concealed his object, however, till he arrived in the West Indies. The declaration of his purpose astonished some of his companions at first; but they soon entered with great zeal into his project. Without waiting for the light of the full moon to enable them to pass with less risk through the Bahama channel, they set sail. It was now the spring season of 1568. When the French came in sight of the first fort, the Spaniards were so far from even suspecting that any expedition would be fitted out against them from France, that they saluted them with a discharge of cannon, supposing them to be their own countrymen. Gourgues, willing to keep them in error, returned the salute, but sailed by them, and at evening landed at the mouth of a river about fifteen leagues from the fort. He immediately entered into an alliance with the savages, who complained loudly of the wrongs they had suffered from the Spaniards. He learned that the Spaniards, to the number of four hundred, were well fortified on the river St. Johns, principally at the great fort, begun by the French and afterward repaired by themselves. Two leagues nearer the mouth of the river, they had built two smaller forts, which were defended by one hundred and twenty soldiers, well supplied with artillery and provisions. A vigorous assault was made on the first fort, and of the sixty Spaniards who were there, but fifteen escaped. All in the second fort were slain. After sixty Spaniards, sallying out from the third fort, had been intercepted, this last fortress was easily taken. All the surviving Spaniards, including the fifteen who escaped the massacre at the first fort, were led away prisoners, and, after having been shown 'the wrong which they had done, without occasion, to all the French nation, were all hanged on the boughs of the same trees whereon the French hung; of which number five were hanged by one Spaniard.' 'But instead of the writing which Pedro Melendez had hanged over them, importing these words in Spanish, *I doe not this as unto French men, but as unto Lutherans*, Gourgues caused to be imprinted with a searing iron in a table of Firrewood, *I doe not this as unto Spaniards, nor as unto Mariners, but as unto Traitors, Robbers and Murtherers.*' Thus the savages had the satisfaction of seeing the nations, who had ill-treated them, butcher one another. Gourgues did not come from France with the intention of making a permanent settlement, and finding himself unable to keep the forts he had taken, and apprehending danger from the savages, as well as from the Spaniards who were settled further south, he caused the forts to be entirely demolished. Having taken leave of the Indians, 'and assembled his men, he thanked God of all his successe since his setting foorth, and prayed to him for an happy returne.' He sailed May third, and arrived at Rochelle on the sixth of June. His success was not very gratifying to the Catholic French government, and he was obliged to conceal himself. He died in the year 1582. France disavowed the expedition and relinquished all claim to Florida. If the settlement of Ribault at Port Royal, or that of Laudonnière on the river of St. Johns, had been fostered by the parent country, France might have had an empire in America before England had established a colony, and the United States have been in a condition altogether different from what it is at present. But the French and the Spanish respectively waged the war of religious intolerance, and the inhuman acts of both nations have been followed by results which had an important bearing on the condition of the whole western continent and of the whole world. The English language is spoken where the French might have been; and the institutions of the United States have derived their character from England instead of France. Liberty has taken root, and is spreading itself abroad in the world under different auspices and through different channels from what might have been found for it, if these colonies had been permanent, instead of being doomed to destruction by the spirit of religious bigotry and intolerance. S.



The Fennec.

FENNEC.

The Fennec or Zerda, according to Shaw, is a beautiful African and Asiatic animal, and is principally found in Arabia. Its general length is about ten inches, and its color yellowish white. The ears, which are uncommonly large, are internally of a bright rose-color, edged with a broad margin of white hair, and the tip of the tail is black. An original drawing of the Fennec, in the possession of Mr. Bruce, was by him communicated to the Count de Buffon, and was inserted in the supplemental part of the Natural History of that celebrated author. It seems singular that an animal which is said to be by no means uncommon in many parts of the East, should be still unknown in European museums. With respect to its real nature, and proper situation in systematic arrangement, perhaps no true determination can yet be made. On this subject Mr. Bruce and Mr. Pennant disagree in their opinions. Mr. Pennant ranks it under the genus Canis, and calls it *Zerda*, or 'dog with a pointed visage; long whiskers; large, bright, black eyes; very large ears, of a bright rose-color, internally lined with long hairs, the orifice so small as not to be visible, probably covered with a valve or membrane; legs and feet like those of a dog; tail taper; color between a straw and a pale brown; length from nose to tail ten inches; ears three and a half; tail six; height not five.' It inhabits, says Mr. Pennant, the vast deserts of Saara, which extend beyond Mount Atlas, and is called by the Moors *Zerda*; burrows in sandy ground, which shows the use of valves to the ears. It is so exceedingly swift that it is very rarely taken alive; feeds on insects, especially locusts; sits on its rump; is very vigilant, and barks like a dog, but much shriller. Dr. Sparmann suspects that he saw it during his travels in Caffraria. Mr. Bruce, in the fifth or supplemental volume of his Travels, assures us that the true name of the animal is not *Zerda*, but *Fennec*; and this latter name, he conceives, may have been derived from *phoinix*, a palm, the principal residence of the creature being on the tops of palm-trees. Mr. Bruce, at different periods, kept two or three specimens of the Fennec, and the following is his account of the animal's manners and appearance.

'Though his favorite food seemed to be dates, or any sweet fruit, yet I observed he was very fond of eggs, and small birds' eggs were first brought him, which he devoured with great avidity; but he did not seem to know how to manage that of a hen, but when broken for him he ate it with the same avidity as the others. When he was hungry, he would eat bread, especially with honey or sugar. It was very observable, that a bird, whether confined in a cage near him, or flying across the room, engrossed his whole attention. He followed it with his eyes wherever it went, nor was he, at this time, to be diverted by placing biscuit before him; and it was obvious, by the great interest he seemed to take in its motions, that he was accustomed to watch for victories over it, either for his pleasure or his food. He seemed very much alarmed at the approach of a cat, and endeavored to hide himself, but showed no symptom of preparing for any defence. I never heard he had any voice. He suffered himself, not without some difficulty, to be handled in the day, when he seemed rather inclined to sleep, but was exceedingly unquiet and restless so soon as night came, and always endeavoring his escape; and though he did not attempt the wire, yet, with his sharp teeth, he

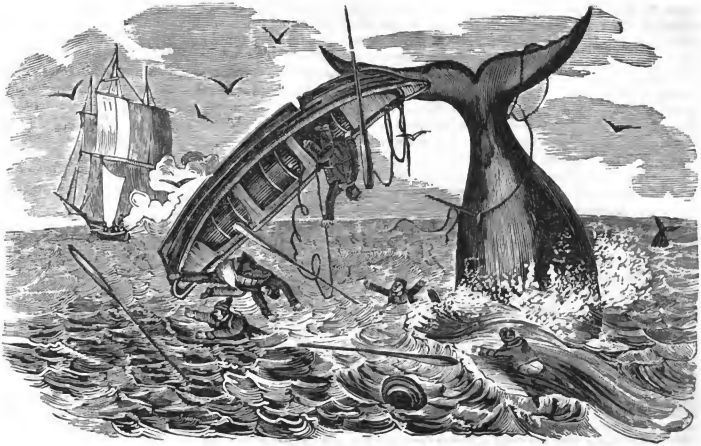
very soon mastered the wood of any common bird-cage.

'From the snout to the root of the tail he was about ten inches long, his tail five and a quarter, and near an inch on the tip of it was black. From the point of his fore shoulder to the point of his fore toe, was two inches and seven eighths. He was two inches and a half from his occiput to the point of his nose, the length of his ears three inches and three eighths. These were doubled, or had a plait on the bottom on the outside. The borders of his ears in the inside were thick covered with soft white hair, but the middle part was bare, and of a pink or rose color. They were about an inch and a half broad, and the cavities within were very large. It was very difficult to measure these, for he was very impatient at having his ears touched, and always kept them erect, unless when terrified by a cat. The pupil of the eye was large and black, surrounded by a deep blue iris. He had strong, thick mustaches; the tip of his nose very sharp, black, and polished. His upper jaw reached beyond the lower, and had four grinders on each side of the mouth. It had six fore teeth in each jaw; those in the under jaw are smaller than the upper; the canine teeth are long, large, and exceedingly pointed. His legs are small, and his feet very broad; he has four toes, armed with crooked, black, sharp claws; those on his fore feet more crooked and sharp than behind. All his body is nearly of a dirty white, bordering on cream color; the hair of his belly rather whiter, softer, and longer than the rest, and on it a number of paps, but he was so impatient it was impossible to count them. He very seldom extended or stiffened his tail, the hair of which was harder. He had a very sly and wily appearance. But as he is a solitary animal, and not gregarious, as he has no particular mark of feelings about him, no shift or particular cunning which might occasion Solomon to qualify him as wise, as he builds his nest upon trees, and not on the rock, he cannot be the Saphan of the Scripture, as some, both Jews and Arabians, not sufficiently attentive to the qualities attributed to that animal, have nevertheless erroneously imagined.'

Solitary Confinement.—Lafayette, as we all know, passed a long time in prison. He could advise with knowledge of the subject; and his advice was that Pennsylvania should adopt the Auburn system. Afterwards, in 1826, he wrote thus: 'The people of Pennsylvania think that the system of solitary confinement is a new idea, a new discovery. Not so. It is only the revival of the system of the Bastile. The state of Pennsylvania, which has given to the world an example of humanity, and whose code of philanthropy has been quoted and canvassed by all Europe, is now about to proclaim to the world the inefficacy of the system, and revive and restore the cruel mode of the most barbarous and unenlightened age. I hope my friends of Pennsylvania will consider the effect this system had on the poor prisoners of the Bastile. I repaired to the scene on the second day of the demolition, and found *all* the prisoners had been deranged by their solitary confinement, except one. He had been a prisoner twenty-five years, and was led forth during the height of the tumultuous riot of the people whilst engaged in tearing down the building. He looked around with amazement, for he had seen nobody for that space of time; and before night he was so much affected that he became a confirmed maniac, from which situation he never recovered.'

NEW PIANO-FORTE.

We have been highly gratified by the inspection of a new patent grand square piano-forte, constructed by Messrs. Wolf & Co., No. 79 Cornhill, (England,) on a principle which seems to have effectually combined great power with great delicacy of tone; and to have concentrated, within a form of moderate size and appropriate elegance, the various properties essential to the perfection of that fashionable instrument, but which it has hitherto been thought impracticable to unite. The means by which this object has been obtained are chiefly a different arrangement of the strings upon the sound board, by which the bass and tenor strings are carried by bridges over those of the treble, which are arranged underneath them in a transverse direction—thus affording wider intervals between all the strings, for a fuller and freer vibration, and greater space for a more direct and efficient action of the hammers in eliciting a full and perfect tone. By this novel arrangement of the strings, the pressure arising from their tension is more equally distributed over the sound board, which extends over the whole area of the instrument, and brings into unobstructed action a larger and more susceptible surface of vibration. The practical advantages resulting from this simple but effective arrangement, are rendered fully available to the performer, by an action constructed on the principle of the horizontal grand piano-forte, but greatly simplified, and, by its exquisite facility and certainty, enabling him to regulate his touch with the minutest accuracy, in the execution either of the loudest forte, or the softest piano passages—a property which, though so essential to a finished performance, has been hitherto unattainable in square piano-fortes on the common construction. Without opening the case, the key board, with the whole apparatus of the action, may be detached, for any required regulation or adjustment, and replaced with the greatest case; and the whole arrangement and distribution of the several parts of the instrument are such as to render it less liable to injury, and more likely to keep in tune, than those generally in use. By these simple and ingenious contrivances, the full power and brilliancy of tone, and the facility and efficiency of action of the large horizontal grand piano-fortes, are most effectually obtained; and as these instruments are offered to the public at prices not exceeding those of the grand square piano-fortes made on the common principle, we feel little doubt of their being generally approved.—*English Paper.*



Perils of Whaling.

PERILS OF THE WHALE-FISHERY.

The accompanying cut represents one of the perilous accidents to which the hardy and adventurous whalemen are exposed. An enormous whale, into which a harpoon has been struck, in agony and exasperation from his wound, strikes the boat with its tail, and throws it, with its men and apparatus, high into the air. The boat is inverted by the stroke, and falls into the water with its keel upward.

Instances of disasters of this kind, occasioned by blows from the whale, could be adduced in great numbers. Boats are sometimes destroyed by a single stroke of the tail; at others they have been stove or upset, and their crews wholly or in part drowned; and cases of whales having made a regular attack upon every boat which came near them, dashing some in pieces, and killing the whalemen, are of common occurrence. We will give two or three anecdotes of this nature, as collected by an experienced master of a whaling ship.

A remarkable instance, says Captain Scoresby, of the power which the whale possesses in its tail, was exhibited within my own observation, in the year 1807. On the twenty-ninth of May, a whale was harpooned by an officer belonging to the Resolution. It descended a considerable depth, and on its rëappearance evinced an uncommon degree of irritation. It made such a display of its fins and tail that few of the crew were hardy enough to approach it. The captain, (Captain Scoresby's father,) observing their timidity, called a boat, and himself struck a second harpoon. Another boat immediately followed, and unfortunately advanced too far. The tail was again reared into the air, in a terrific attitude; the impending blow was evident; the harpooner, who was directly underneath, leaped overboard; and the next moment, the threatened stroke was impressed on the centre of the boat, which it buried in the water. Happily, no one was injured. The harpooner, who leaped overboard, escaped certain death by the act, the tail having struck the very spot on which he stood. The effects of the blow were astonishing. The keel was broken; the gunwales, and every plank excepting two, were cut through; and it was evident that the boat would have been completely divided, had not the tail struck directly upon a coil of lines. The boat was rendered useless.

Perhaps one of the most remarkable instances of the destruction of a vessel by a whale, is that of the ship Essex, which sailed from Nantucket about the year 1820. She was commanded by Captain Pollard, and had entered the Pacific Ocean, where she was employed some time in catching whales. One day, the seamen harpooned a young whale. In this species the affection of the mother towards its young is very strong; as was evinced in a remarkable manner on this occasion. When the mother of the young whale found that her progeny was killed, she went to some distance from the ship, and then, rushing through the water, came against the stern of the vessel with the greatest violence. So tremendous was the force of the shock, that several of the timbers were loosened, and the vessel pitched and reeled on the water, as if struck by a whirlwind. Nor was the whale satisfied with this. Again she went to the distance of more than a mile, and then, shooting through the waves with incredible swiftness, came like a thunderbolt upon the bow of the vessel.

The timbers were instantly beaten in, and the ship began to fill with water. Scarcely had the crew sufficient time to get into their boat before she went down. In this sudden and frightful situation the poor seamen now found themselves. They were upon the wide-heaving and perilous ocean, in an open boat, and far from any land. If the whale had come upon them in the condition they were now in, they must have inevitably perished. But they saw no more of the monster. Captain Pollard and his men for several days suffered severe hardships from the weather, and from want of water and food. At length the delightful vision of another ship broke upon their sight. They were all taken on board, and finally reached their native country in safety.

In 1822, two boats belonging to the ship Baffin went in pursuit of a whale. John Carr was harpooner and commander of one of them. The whale they pursued led them into a vast shoal of his own species; they were so numerous that their blowing was incessant, and they believed that they did not see fewer than a hundred. Fearful of alarming them without striking any, they remained for a while motionless. At last, one rose near Carr's boat, and he approached, and, fatally for himself, harpooned it. When he struck, the fish was approaching the boat, and, passing very rapidly, jerked the line out of its place over the stern, and threw it upon the gunwale. Its pressure in this unfavorable position so careened the boat that the side was pulled under water, and it began to fill. In this emergency, Carr, who was a brave, active man, seized the line, and endeavored to relieve the boat by restoring it to its place; but, by some circumstance which was never accounted for, a turn of the line flew over his arm, dragged him overboard in an instant, and drew him under the water, never more to rise. So sudden was the accident, that only one man, who was watching him, saw what had happened; so that when the boat righted, which it immediately did, though half full of water, the whole crew on looking round inquired what had become of Carr. It is impossible to imagine a death more awfully sudden and unexpected. The invisible bullet could not have effected more instantaneous destruction. The velocity of the whale at its first descent is from thirteen to fifteen feet per second. Now as this unfortunate man was adjusting the line at the water's very edge, where it must have been perfectly tight, owing to its obstruction in running out of the boat, the interval of time between the fastening the line about him and his disappearance could not have exceeded the third part of a second of time; for in one second only he must have been dragged ten or twelve feet deep. Indeed, he had not time for the least exclamation; and the person who saw his removal observed that it was so exceeding quick, that, though his eye was upon him at the moment, he could scarcely distinguish his figure as he disappeared.

As soon as the crew recovered from their consternation, they applied themselves to the needful attention which the lines required. A second harpoon was struck from the accompanying boat on the rising of the whale to the surface, and some lances were applied; but this melancholy occurrence had cast such a damp on all present, that they became timid and inactive in their subsequent duties. The whale, when nearly exhausted, was allowed to remain some minutes unmolested, till, having recovered some degree of energy, it made a violent effort and tore itself away from both harpoons. The exertions of the crews thus proved fruitless, and were attended with serious loss.

Innumerable other instances might be adduced of the perils and disasters to which our whalemen are subject, and of their never-tiring fortitude and daring enterprise. Those of our readers who have a curiosity to learn more respecting the character of the whale and the mode of catching him, may find a very interesting article on the subject at the fourth page of the second volume of the Magazine. It was written for this work by one practically familiar with the subject.

ANDREW JACKSON

Ex-President Jackson's grandfather was one of the victims at the siege of Carrickfergus, in Ireland. His father, Andrew Jackson, emigrated to America with his wife and two sons, in 1765, and settled at a place formerly called Waxsaw, now the district of Marion, in South Carolina, where his youngest son, the subject of our notice, was born, on the fifteenth of March, 1767. The father died about the close of the year 1767, and the three sons were left to the care of the mother, who appears to have instilled into their minds an abhorrence of tyranny and a love of freedom. The oldest son finally lost his life at the battle of Stono. Andrew was designed by his mother for the ministry, and commenced the study of the classics; but when he was fourteen years old, he and his brother entered the American service, at the time when the American forces were compelled to retire before Cornwallis into the interior of North Carolina. The next day after the affair at the Waxsaw church, many of the wandering Americans were captured, and among them were Andrew Jackson and his brother Robert. They were afterwards exchanged for British prisoners, a few of whom were taken near Camden. Robert died of a wound which it is said he received in the head after he was taken prisoner; and his mother died soon afterwards. At about sixteen years of age, the subject of our memoir resumed his literary pursuits, and continued them till he was eighteen; when, finding his patrimony diminished, he relinquished his intention of entering a university. He commenced the study of law in 1784, and was licensed as a practitioner in 1786. He moved to Nashville, in the then South-West Territory, in October, 1788, where he commenced practice, at the age of little more than twenty-one years, and not long after was appointed attorney-general of the territory. When the South-West Territory was admitted into the Union by the name of Tennessee, he was chosen a member of the convention for forming the constitution, and not long after was elected the first representative

Andrew Jackson.

from that state to Congress. In 1797 he went as senator. In 1799, he was appointed judge of the supreme court of Tennessee, but he continued in office only a short time. The same year that Tennessee was admitted into the Union, 1796, Mr. Jackson was appointed major general of all the militia of that state. In 1812, being still major general, he put himself at the head of the volunteer corps, raised by an act of Congress. He proceeded down the Mississippi river, in the commencement of the year 1813, for the protection of the country from the British and Indians. At Natchez, orders were received from the secretary of war to disband the troops on the spot. But a large number of his men being then sick and destitute of the means of returning home, he felt bound by obligations to them and their families to lead them back, and to disregard an order made without the knowledge of his peculiar circumstances. This purpose he effected, sharing with his men all the hardships of the return. His subsequent representations to the cabinet were accepted, and his course sanctioned.

General Jackson was not permitted to remain long inactive. The Creek Indians having committed some acts of hostility, a body of militia was called out by the legislature of Tennessee, which he was appointed to command. The campaign lasted about eight months, during which he defeated the Indians in several desperate battles and compelled them to sue for peace; which was granted them on certain conditions, which they saw fit to comply with. Hostility in this quarter being thus checked, the troops took up their march homeward in the latter part of April, 1814, having undergone a most severe service; during which, by his promptness and decision, the commander maintained the order and efficiency of the troops, although threatened by mutiny and scarcity of provisions, and by his celerity defeated the stratagems even of Indian warfare. 'Within a few days,' he observed to his army at the close of the war, 'you have annihilated the power of a nation that for twenty years has been the disturber of your peace.' For his services in this campaign he was rewarded by the general government with the commission of major general, in May, 1814. Shortly afterward he was appointed, in conjunction with Colonel Hawkins, the Indian agent, a commissioner to make a treaty with the subdued tribes, the principal object of which was to prevent any intercourse between them and the British and Spanish agents in Florida. On the tenth of August, 1814, a treaty was executed, which secured to our government the right of establishing military posts in their territory. While engaged in this negotiation, he discovered that the Indians were still encouraged and supported by the Spaniards in Florida. He addressed remonstrances to the Spanish governor, but in vain. He then, at the head of three thousand volunteers from Tennessee, attacked Pensacola, which had openly favored the British, and took possession of the town in the beginning of November, driving the Spaniards before him, after a short but unavailing resistance.

From Pensacola he proceeded to New Orleans, where he arrived on the first of December, in the same year. A large part of the population of New Orleans at that time was composed of foreigners. Jackson soon discovered that some of them were disaffected and disposed to treachery. Finding no other available means of keeping them under proper restraint, on the sixteenth of December he proclaimed the city to be under martial law, superseding all civil authority by a rigid military police. The account of the subsequent events, ending with the great battle of the eighth of January, we take from a recent memoir.

On the twenty-second of December, the British secretly effected a landing, and reached the banks of the Mississippi, within seven miles of the city. As soon as this was known, he called upon Generals Coffee and Carroll to join him, and proceeded to meet the invaders. The hostile armies came in sight of each other near the close of the day. The number of the enemy was upwards of three thousand, the American force did not exceed two thousand; the latter, however, commenced the charge, and a severe conflict lasted until the darkness of the night confused the combatants. The British were driven before our army for nearly a mile, from several successive intrenchments. By continual accessions during the battle, the British force was estimated to have increased to the number of six thousand. The American commander, deeming it rash to pursue his success at such a hazard, proceeded to prepare for defence by throwing up a breastwork in front of his army. On the twenty-eighth these works were attacked by the enemy, under their commander-in-chief, Sir Edward Packenham, and they were forced to retire. Frequent skirmishes occurred between detached parties for several days, while the enemy were preparing for a grand assault. On the first of

January, 1815, they opened a tremendous discharge from their batteries upon our lines, but the fire was returned with such success that by three o'clock they were silenced.

On the fourth, a timely reinforcement from Kentucky added twenty-five hundred men to the American army. On the eighth, the enemy advanced in two divisions, under Sir Edward Packenham, and, owing to a fog, approached within a short distance of the intrenchments before they were discovered. A terrible and unceasing volley kept them back, and Packenham fell, fatally wounded. The British columns, sixty or seventy deep, were successively led on to the charge, and broken by the dreadful havock of the American fire, until they betook themselves to flight. Jackson was obliged to submit to the mortification of withholding his men from pursuit, for a large portion of them were without arms, and to venture, with so inferior a force, to a battle on the open field, would have been an unjustifiable risk. He was compelled, therefore, to remain in his post. The force of the British in this memorable engagement was at least nine thousand; the efficient American troops amounted to thirty-seven hundred. The enemy's loss in killed, wounded, and prisoners, is estimated at three thousand, while that of the victors was but thirteen. For several days after the battle, the British camp was harassed by a continual discharge from the batteries, which compelled the army to withdraw secretly to their ships on the night of the eighteenth, and they soon left the coast. The general entered New Orleans with his victorious troops on the twentieth, where he was received with boundless enthusiasm, and solemn thanksgiving to Providence was offered in public services at the Cathedral. Insidious attempts were now made in New Orleans to destroy the strength of the army by encouraging mutiny and desertion. The city being still under martial law, Jackson caused to be arrested a member of the legislature who had furnished the newspapers with articles of a pernicious tendency. Application was made to the district judge for a writ of habeas corpus, to be served on the general, which he granted, in opposition to the positive injunctions of Jackson, who promptly ordered the judge also to be arrested and sent from the city. Two days afterwards, official intelligence was received of the conclusion of a treaty of peace between the belligerent countries. The judge had no sooner resumed his office, than Jackson was summoned to answer for his contempt of court in disregarding the writ, and in arresting the judicial officer. The general appeared and vindicated his course, through his counsel, but was fined in the sum of one thousand dollars. This sentence excited universal indignation, and the amount of the amercement was quickly contributed by the people; but the general had already discharged it from his own funds, and requested that the other sum should be distributed among the relatives of those who had fallen in the battle.

After these events, the war being ended, he returned to his farm, where he remained till the end of 1817, when he received orders to go against the Seminoles, who had committed repeated massacres of the Americans on the frontiers. At the head of the Tennessee volunteers and a body of Georgia militia, he marched into Florida, destroyed their retreats, and burned their villages. In May, 1818, he took possession of Pensacola, the governor of which had given countenance and protection to the Indians. The governor fled to Fort Barrancas, which, however, he soon surrendered. In June of the same year he returned home.

The Floridas having been ceded by Spain to the United States, General Jackson was appointed a commissioner to receive the cession and to act as governor of the territory. He commenced his administration in July, 1821. Soon after organizing his government, he resigned his office and retired to his farm in Tennessee. In August, 1822, the legislature of that state nominated him to succeed Mr. Monroe as President of the United States. About the same time he was offered the post of minister to Mexico, but declined, and in 1823 he was elected to the senate of the United States; but having now become a prominent candidate for the presidency, he resigned his seat in the second session. When the election returns came in, in the autumn of 1824, it was found that no one was elected by the people. General Jackson had a plurality, but Mr. Adams was chosen by the house of representatives, on whom the duty of selecting one devolved. Jackson was immediately nominated to succeed Mr. Adams at the close of his term, and in February, 1829, it was found that he was elected, having received one hundred and seventy-eight electoral votes, while Mr. Adams received but eighty-three. At the end of his first term he was rëelected by an increased majority.

The events and measures of his administration are recent and well known, and therefore need not be dwelt upon here. Men will estimate them very differently, according to their different sentiments, prejudices, and feelings. Perhaps the time for forming an impartial judgment concerning them has not yet come. Whatever different views may be entertained of the wisdom of the measures of his administration, it is believed that all will be ready to allow that he was distinguished for the same energy, promptitude, and decision which contributed materially to his success in his brilliant military career.

Having completed his second term of service in March last, he has bid adieu to the cares of government, and retired, at the age of seventy years, to the Hermitage, where, in imitation of most of his predecessors in office, he is enjoying that genuine *otium cum dignitate*, which is the appropriate sequel and reward of a life of active exertion in his country's service.

WHIPPOORWILL.

This bird, though often confounded with the Chuck Will's Widow and the Night Hawk, is of a different species. The favorite places to which it resorts are high situations, and in low, marshy tracts of country it is seldom heard. Its food ap-

The Whippoorwill.

pears to be large moths, grasshoppers, ants, and such insects as frequent the bark of old rotten and decaying timber. It is also expert in darting after winged insects. The notes which these birds utter seem plainly to articulate the words which have been generally applied to them, *Whip-poor-will*, the first and last syllables being uttered with great emphasis, and the whole in about a second to each repetition; but when two or more males meet, their whip-poor-will altercations become much more rapid and incessant, as if each was straining to overpower and silence the other. When near, you often hear an introductory *cluck* between the notes. At these times, as well as at almost all others, they fly low, not more than a few feet from the surface, skimming about the house and before the door, alighting on the woodpile, or settling on the roof. When they approach so near to the house, many superstitious persons consider their visits as foreboding no good to the family, nothing less than sickness, misfortune, or, what is more common, death, to some of its members. These visits, however, so often occur without any bad consequences, that this superstitious dread is giving place to good sense. Towards midnight Whip-poorwills become silent, unless in clear moonlight, when they are heard with but little intermission till morning. If there be a creek near, with high, precipitous, bushy banks, they are sure to be found in such situations. During the day they sit in the most retired, solitary, and deep-shaded parts of the woods, generally on high ground, where they repose in silence. When disturbed, they rise within a few feet, sail low and slowly through the woods for thirty or forty yards, and generally settle on a low branch or on the ground. Their sight appears deficient during the day, as, like owls, they seem to want that vivacity for which they are distinguished in the morning and evening twilight.

'In traversing the woods one day,' says Wilson, who has given a very particular account of this bird, 'in the early part of June, along the brow of a rocky declivity, a Whippoorwill rose from my feet and fluttered along, sometimes prostrating herself and beating the ground with her wings, as if just expiring. Aware of her purpose, I stood still and began to examine the space immediately around me for the eggs or young, one or other of which I was certain must be near. After a long search, to my mortification I could find neither; and was just going to abandon the spot, when I perceived somewhat like a slight mouldiness among the withered leaves, and on stooping down discovered it to be a young Whip-poorwill, seemingly asleep, as its eyelids were nearly closed; or perhaps this might only be to protect its tender eyes from the glare of day. I sat down by it on the leaves, and drew it as it then appeared. It was probably not a week old. All the while I was thus engaged it neither moved its body nor opened its eyes more than half; and I left it as I found it. After I had walked about a quarter of a mile from the spot, recollecting that I had left a pencil behind, I returned, and found my pencil, but the young bird was gone.'

The Whippoorwill is nine and a half inches long, and nineteen in the stretch of the wings. The mouth is very large, and beset along the sides with a number of thick bristles, the largest extending more than half an inch beyond the point of the bill. The tail is rounded, of ten feathers, the exterior being one and a quarter inches shorter than the middle ones. The four middle ones are without the white at the ends. The female is about an inch less than the male.

They enter the United States early in April, but are some weeks, probably, in attaining their utmost northern limit. Towards the close of summer, previously to their departure, they are again heard occasionally, but their note is now languid and seldom uttered; and early in September they leave us for the more genial climate of tropical America, being there found, giving their usual lively cry in the wilds of Cayenne and Demerara.

A COTTAGE SCENE.

BY MRS. SIGOURNEY.

I saw a cradle at a cottage door,
Where the fair mother with a cheerful wheel
Carolled so sweet a song, that the young bird,
Which, timid, near the threshold sought for seeds,
Paused with a lifted foot, and turned his head
As if to listen. The rejoicing bees
Nestled in throngs amid the woodbine cups
That o'er the lattice clustered. A clear stream
Came leaping from its sylvan height, and poured
Music upon the pebbles; and the winds,
Which gently 'mid the vernal branches played
Their idle freaks, brought showering blossoms down,
Surfeiting the air with sweetness. Sad I came
From weary commerce with the heartless world;
But when I felt upon my withered cheek
My mother Nature's breath, and heard the trump
Of those gay insects at their honied toil,
Sparkling like winged jewelry, and drank
The healthful odor of the flowering trees,
And bright-eyed violets; but most of all,
When I beheld mild slumbering innocence,
And on that young maternal brow the glow
Of those affections which do purify
And renovate the soul, I turned my back
In gladness, and with added strength, to run
My thorn-clad race, lifting a thankful prayer
To Him who showed me what there was of heaven
Here on the earth, that I might safer walk,
And firmer combat sin, and surer rise
From earth to heaven.

Timber Raft on the Rhine.

NAVIGATION OF THE RHINE.

The navigation of the Rhine is very considerable and important. For the exportation of the produce of all the States, situated on either bank from its very source, Cologne is the principal *entrepôt*. The river in this place is 1300 feet wide, and from twenty-five to fifty feet deep. Vessels going hence to Holland have frequently double the cargo which has been brought down the river to this place, and the final shipments for the sea take place in this port. From hence the navigation is uniform, uninterrupted, and free from danger. The entire course of the Rhine from its source to the sea is calculated at 303½ country leagues. One fifteenth part of this, near the source, is not navigable, and for the next thirty leagues it can only be navigated by small boats. From Bâle to Strasburg, boats of thirty and forty tons descend the river; and from the last-mentioned place to Holland, the navigation is general, and of more importance, although not altogether free from difficulties and risks in some few parts above Cologne. Vessels carrying from one to four hundred tons frequently descend this principal extent of the Rhine.

The conveyance of travellers, both up and down the river, in boats, marktschiffes or diligences, and private boats or galiotes, has been much improved of late years, and placed under proper regulations. The marktschiffes are very large and commodious vessels, with a state-room, and other conveniences. From Mayence to Cologne, a distance of twenty-one and a half German miles by water, or forty-one hours and three quarters reckoned as time, is performed, during the fine season, in one of those boats, in two days, and in three days from Cologne to Mayence. The passengers must sleep on shore, as the navigation is suspended during the night.

The establishment of steamboats, however, has done away, in a great measure, with this tedious and more expensive mode of travelling. One of these vessels starts twice a week from Cologne for Mayence and back again. Two whole days are employed in the former (stopping the night), and ten hours in the latter voyage. Now that steam navigation has been introduced, a man may breakfast in London on Saturday, take his supper on the Thursday evening following at Frankfort, and dine in some Swiss canton the succeeding Sunday; and all this at the moderate expense of from forty to fifty dollars.

The most curious objects of human industry that are to be met in the course of the navigation on the Rhine, are the celebrated timber rafts, of one of which a representation is given above. These singular floating machines are composed of many thousand trees, disposed in layers, and properly lashed together. They are frequently from 900 to 1000 feet in length, and from sixty to eighty feet in breadth, and draw perhaps as much as six or eight feet of water. They are rowed by 800 men, who are disposed at the end of the float, as seen in the plate. This crew is lodged in a small village of wooden huts, neatly erected on the float, presenting a very curious appearance. Every arrangement, as to discipline, provisions, and such other regulations as are generally prevalent on board of large vessels at sea, obtains in this case. To these machines may with propriety be applied the motto,—*Vires acquirit eundo;* for, at first starting, they consist of a few trees, fastened loosely together, and their more regular construction, by gradual additions, takes place at certain fixed stations, in proportion as the navigation becomes less entangled, until, at last, the whole assumes the appearance we have described.

Those of our readers who have our second volume will find in it a cut of a timber raft, which it may be interesting to compare with the above.

The Pygmy Opossum.

PYGMY OPOSSUM.

We have given some account of Opossums in the preceding part of the present volume. The animal before the reader differs from the species of which we have made mention, and is called by Shaw the Pygmy Opossum. He describes it as being by far the most minute of all the Opossums, and deriving its name from its diminutive size, not being larger than a common mouse. It has been most elegantly figured in the Zoology of New Holland, and the representation here given exhibits the animal in a similar posture. It is furnished on each side of the body with an expansive membrane, exactly in the manner of the flying squirrel, by the assistance of which it is enabled to spring to a considerable distance. The fur on the whole animal is extremely fine; the color is a soft or palish brown above, and almost white beneath. The edges of the flying membrane are also white. The nose, feet, and ears internally are of a light pink or flesh-color. The tail is of a flattened form, and is beautifully edged on each side with soft, silky hairs. The opening of the abdominal pouch of this species is of a semilunar form. The tongue is remarkably large and long, and of a flattened form; the hind feet have rounded and unarmed thumbs, and the two interior toes are united under a common skin.

GNADENHUTTEN AND HECKEWELDER.

Gnadenhutten, or 'Tents of Grace,' the scene of the missionary labors of the pious and humane Heckewelder, is seated on the river Tuscarawas, twenty-five miles below Zoar. The ancient Indian village was placed on a broad elevated plain, on the east side of the stream. These simple sons of the forest had become docile as children, under the gentle guidance of the Moravian teachers; a large number of them were truly pious, and members of the church of Christ. Seated on the frontiers between the contending savages and the whites, and taking sides with neither, they had become obnoxious to both, and were cruelly murdered in cold blood, to the number of ninety-four, in April, 1782, by Colonels Williamson and Crawford, and party; the Sandusky Indians accusing them of being friendly to the whites, and the whites charging

them with secreting the stolen property brought by the war parties on their return from the settlements. How often the fate of these poor Indians is verified in modern warfare; the quiet and unoffending neutral is plundered and abused by both the belligerent parties. Filled with the spirit of revenge, in the month of March, 1782, a party of eighty or ninety mounted men, under the guidance of Colonels Williamson and Crawford, took their departure from the 'Old Mingo Bottoms,' the well-known rallying ground of border warfare, destined for the Moravian villages on the Tuscarawas. The Indians, thinking of no evil, were busily engaged about their domestic concerns, and, offering no resistance, suffered themselves to be all taken prisoners, to the number of ninety-four. More than half of these were women and children. In the morning, when told what was to be their fate, they mutually prayed, and exhorted each other to be resigned, and asking reciprocal forgiveness, prepared for death. Before the order for massacre was finally issued, some of the more humane men made application to Colonel Williamson for liberty to take a child apiece to their homes and save their lives, there being not less than thirty or forty. Williamson, after considering a minute, answered that there were not children enough for them all to have one, and lest there might be any complaining, he though it better to let them remain on the spot with their parents and relatives; accordingly, they were all massacred in cool blood, and after a night's rest for reflection. In the heat of battle, and at the sacking of a town, there may be some excuse for the indiscriminate slaughter that sometimes takes place; but in the whole annals of American warfare, no scene of deliberate murder can be found that equals this in atrocity. This tragical story was related to me, a few days since, by a man now more than eighty years old, who was present, and one of the number that made application for liberty to save one of the children. He was well acquainted with Williamson, the principal actor, and says that he died poor and miserable, and that a large number of the men perished by violent and untimely deaths. He was one of the party under Williamson and Crawford at the defeat in May following, on the Sandusky plains, where Crawford was taken prisoner and burnt, and most of his men killed. I also conversed with a man on the spot, for many years a resident here, who said that when a boy he had often seen, with mingled feelings of horror and detestation, the black walnut stump on which many of the poor Indians were beheaded. He also confirmed the popular impression, by saying, that the larger number of the men engaged in this murderous business either came to an untimely end, or suffered losses of property and other calamities, too striking not to be noticed as marks of the retributive justice of Heaven. The Tuscarawas is about ninety yards in width, with low banks and a placid current, gliding gently along, a silent, but a still living witness of the atrocities committed on its shores.

Reverend John Heckewelder. Gnadenhutten was first settled by the Moravian missionaries, in the year 1772. Another missionary station was formed a few miles below, at Salem, by Mr. Heckewelder, in the spring of 1780. Sarah, his wife, here resided with him in perfect safety, and in the fullest confidence of security, amongst their Indian converts. The sixteenth of April, 1781, was the birthday of their daughter Maria, who, it is believed, was the first white child born within the present limits of the state of Ohio. In the autumn of that year, the Indians and missionaries were forcibly removed to Detroit, by the Sandusky Indians, leaving all their crops of corn standing in the fields. Having suffered much from a want of food during the winter, a part of the Indians returned in March to save what was yet left, at which time the massacre took place. While dwelling on the incidents of this interesting spot, I cannot refrain from adverting to a singular trait in the character of Mr. Heckewelder, that of believing in the power of foretelling future events. He had lived so many years secluded in the deep forests, and had, in the eye of his mind, seen the Indians so often at their labors, and his visions had been so often verified, that he had insensibly imbibed a belief that the human mind may become so deeply impressed with the approach of future events, as to predict their arrival with certainty. From certain occurrences, he was led to believe that he was himself possessed of this faculty; whether he acquired it from the dreamy kind of life he led in the wilds of the Tuscarawas, or from actual intercourse with spiritual existences, similar to those of Swedenborg, it will be difficult at this day to determine, but certain it is that many devout and pious minds have often been similarly constituted. The following singular fact I have from an ocular and still living witness. During the early years of the settlement of the Ohio company at Marietta, Mr. Heckewelder was a frequent and a welcome guest. He there found men of learning and taste, whose society was congenial, and where he could again enjoy the comforts and refinements of social life. While many of the early settlements were composed of the ignorant, the vulgar, and the rude, the colony at Marietta, like those of many of the ancient Greeks, carried with it the sciences and the arts; and although placed on the frontiers, amidst the howling and the savage wilderness, exposed to many dangers and privations, there ran in the veins of its little band some of the best blood of the country, and it enrolled many men of highly cultivated minds and exalted intellect. Amidst such a society, Mr. Heckewelder could not but pass his time pleasantly. He was himself a man full of the milk of human kindness; a great lover of horticulture, and all the beauties of nature, and much devoted to the study of the natural sciences. He kept for many years at Gnadenhutten a regular meteorological journal of the seasons, and of the flowering of plants, &c., which was published in Barton's Medical Journal. From his thorough knowledge of the Indian languages, he had been employed by General Rufus Putnam as an interpreter, at the treaty which he held with the Indian tribes at Vincennes, on the Wabash, in September, 1792. This duty had been accomplished, and the general had returned as far as the falls of Ohio,

where he was detained by an attack of autumnal fever, then common on the Wabash. Mr. Heckewelder had in the mean time returned by land to Marietta, in company with some of the Delaware Indians. The only intercourse then sustained between distant places, except for hunters and warriors, was by water, in canoes or barges. This journey had thus far been performed in a very light barge, built of cedar, and rowed by twelve men. As his fever had somewhat abated before Mr. Heckewelder left him, and the season was now advanced into November, the general's family at Marietta were daily expecting him, and were with great anxiety waiting for news. No news, however, could be obtained. Mrs. Putnam, with whom Mr. Heckewelder lodged, had become very uneasy and alarmed at the long delay of her husband, and it had been the subject of conversation before retiring to rest. In the morning, when Mr. Heckewelder appeared at the breakfast table, he told Mrs. Putnam, with a smiling countenance, that he had good news for her of the general; and proceeded to state, that in the course of the night he had had one of those mysterious communications in relation to coming events, that had often been made to him during the course of his life, and which he had never known to deceive him. He said the general would return in safety on the eighteenth day of that month; and lest he should forget the day, he had in the night marked on the white-washed chimney, by the side of the bed, the number, with a piece of cut money he had in his pocket. My informant, who was then a boy and lived in the general's family, immediately ran up stairs and examined the spot pointed out. There he found the figures 18 plainly marked in the side of the chimney by the bed. This was eight or ten days before the prophetic time. The days were carefully counted, and as the period approached many an anxious look was cast down the placid stream, in search of the coming barge, when lo! on the precise day, early in the morning, the boat reached the landing at 'Campus Martius,' the name of the stockaded fort at Marietta, with the general and all the party in safety. Such is the account as given in the American Journal.

A Suttee, or the Burning of a Hindoo Widow with the body of her Husband.

SUTTEES.

The self-immolation of the widow on the funeral pile of the deceased husband, according to the East India Magazine, had its origin in the excessive jealousy of the early Hindoo princes, who, with a view to prevent their widows from forming subsequent attachments, availed themselves of their irresponsible power; and, with the aid of the priests, it was promulgated, as if by sacred authority, that the wives of the Hindoos of every caste, who desire future beatitude, should immolate themselves, on the demise of their husbands. Since 1756, when the British power in India became firmly established, more than seventy thousand widows have been cruelly sacrificed. A Brahmin possesses the privilege of marrying as many wives as he pleases. A Brahmin, who died at Bagnapore, had more than one hundred wives; twenty-two were burned at his death. The fire was kept burning three days. He had married four sisters, two of whom were burned with his corpse. A rajah in the hill-country of India, who died not many years since, had twenty-eight wives burnt with his body. We, however, feel confident that these statements are greatly exaggerated. Nevertheless, we may suppose suttees to have been frequent. None of the

Hindoo books command the suttee, though they speak of it as highly meritorious. It is believed to render the husband and his ancestors happy, and to purify him from all offences, even if he have killed a Brahmin. The rule is that the act of the widow must be voluntary; but we can readily imagine that the fanaticism or cupidity of relations often compels the Hindoo to immolate herself, says the writer to whom we are chiefly indebted for this account, just as they forced women, in the middle ages, to take the veil, which also is required by the church to be voluntary.

The ceremonies of a suttee are various, and last from a quarter of an hour to two hours. Sometimes the widow is placed in a cavity prepared under the corpse of the husband; sometimes she is laid by the body, embracing it. If the husband was not a Brahmin, it is not required that the corpse should be burned with the widow; any thing which belonged to the deceased—his garments, slippers, walking-staff—might be substituted for the corpse. There were, according to official report, more than forty suttees in the province of Ghazepoor, in 1824, and several had taken place not reported to the magistrate.

To Lord Bentirck, governor-general of India, belongs the honor of having abolished this shocking perversion of devotion in the British dominions. This abolition took place in December, 1829. Until that time the British government had permitted it, provided the act was voluntary. It occurred more frequently at Benares than in any other part of the Company's territories. The ladies, it is said, complain very bitterly of the hardship of being prevented from burning, and perhaps in many instances it may be severely felt; for women, brought up in a state of apathetic luxury, are ill calculated to endure the penances and privations which must be the lot of those who are so unfortunate as to survive their husbands. It is reckoned very discreditable for a widow to appear plump and healthy at the end of her first year of mourning. It is expected that she shall be reduced by long and frequent fasts, and in her the outward signs of woe are to be shown in an emaciated frame and premature old age. She is forbidden the luxuries of dress, and must perform servile offices revolting to a woman of high birth, long accustomed to the attendance of a train of dependents. Deprived of the few enjoyments which the tyranny of the customs of the East allows to its females, who, brought up in ignorance and imprisonment, should at least be secured from want and suffering, a Hindoo widow is one of the most pitiable objects in the creation. It is to be hoped that the abolition of the rite of suttee will pave the way to more enlightened notions on the subject of female privileges, and that some adequate provision will be made by law to secure the relicts of men of wealth from being cast entirely upon the mercy of their relations.

Business.—Call on a business man in business hours, only on business; transact your business, and then go about your business, in order to give him time to finish his business.

NATURAL HISTORY SOCIETY IN HARVARD UNIVERSITY.

It has always been matter of regret with a portion of the former and present students of Harvard, that no society or other institution for advancement in the knowledge of Natural History has existed in that university. While Natural Philosophy forms a distinct branch in the course of prescribed studies, and occupies a large portion of the student's time, Natural History has received but little attention.

The importance of the science, and the advantages which students may derive from it, render it matter of surprise that earlier and more fixed attention has not been paid to it. This neglect may, however, be easily accounted for.

While all have been impressed with the beautiful adaptation of nature's means to her desired ends, a corresponding feeling of the importance of a knowledge thereof has not existed. The study has been considered as rather tending to gratify, astonish, and, perhaps, amuse, than as affording any solid information, which might be of service to mankind. This erroneous opinion of the character of the study may have arisen from observing that the professed students of Natural History have generally made their acquaintance with the study of but little real service to themselves or others, and hence it has been concluded that the study itself brings with it but little advantage. The illiberality of such a conclusion is evident. To reason from a wrong application of a taste for the study can offer no argument against a better use of it.

Independent of reasoning, however, a recurrence to the discoveries made in Natural History, and to their importance, would convince any one of the utility of the study. Without the entomologist's knowledge, the farmer might sow his crops to no purpose; might cultivate his orchard only to see it yearly destroyed, and, in endeavoring to escape the cause of his evil, remove the only assistant he has against it. Many and somewhat ludicrous examples of the effects of such ignorance might be given; we mention but one or two, as related by Kirby and Spence, in their admirable work on Entomology.

'When walking with a gentleman on his estate, at a village in Yorkshire, we were attracted by several circular patches of dead grass, each having a stick, with rags suspended to it, placed in the centre. I at once discerned that the larva of the cock-chafer had eaten the roots of the grass, which being pulled up by the rooks, that devour this mischievous grub, these birds had been mistaken by the tenant for the cause of the evil, and the rags were placed to frighten away his best friends. On inquiry why he had set up these sticks, he replied, "He couldn't beer to see 'd nasty craws pull up all 'd gess, and sae he 'd set 'd bairns to hing up some aud clouts to flay 'em away. Gin he 'd letten 'em alean they 'd sean hev reated up all 'd close." Nor could I convince him that the rooks were not the cause of the evil.

'Dr. Darwin has observed, that destroying the beautiful but injurious woodpecker is the only

alternative for preventing the injury they do our forest trees by boring into them, not being aware that they bore only those trees which insects have previously attacked, and that they greatly diminish the number of such as are prejudicial to our forests.

'There is an orange-colored fly which does immense injury to wheat, but three little parasitical insects are set to keep its ravages within due limits. It was, at first, the general opinion of unscientific men that these destroyers of our enemy were its parents, and the original source of all the mischief.

'In Germany the gardeners and country people, with great industry, gather whole baskets full of the caterpillar of the destructive cabbage-moth, and then bury them, which, as Roesel well observes, is just as if we should endeavor to kill a crab by covering it with water; for, many being full grown and ready to pass into their next state, which they do under ground, instead of destroying them by this manœuvre, their appearing again the following year in greater numbers is actually facilitated.' Thus much for the use of the study of entomology alone, which so frequently meets with the ridicule of those who profit most by the acquired knowledge.

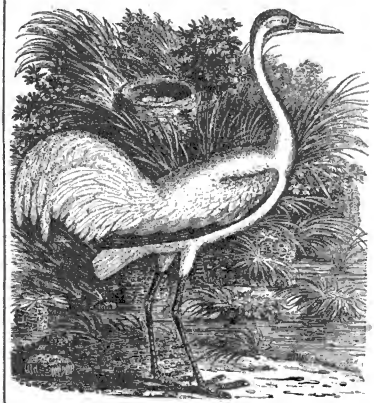
It would be useless and tedious to attempt to prove the importance of each branch of the study of Natural History; it must suffice to say, that there is no insect nor living animal, however small, that may not exercise an important influence on man's welfare. Linné asserts that three flies, of the species *Musca Vomitoria*, will devour a dead horse as quickly as would a lion. If these flies, then, can produce such important effects, what is not the power of the swarms of insects of every kind that throng around us?

The advantages which students may derive from the prosecution of the study are sufficiently obvious to every one who reflects upon the subject. And we are happy in making the statement, that some of the present students at Cambridge have organized a society for the prosecution of Natural History in all its branches. It has always been the case that some of them have, as individuals, attended to it, but their disunited efforts only improved their own knowledge, without advancing that of others. A society, formed to unite them into one body, to improve the whole by mutual instruction, and to make the experiences of one the property of all, cannot but be extremely useful to its members, while, at the same time, much economy of time and labor will result.

The departments at present attended to are Zoology, Ornithology, Ichthyology, Entomology, Osteology, Botany, Mineralogy, and Conchology. The specimens in each department are rapidly multiplying. From the varied journeys of the students, the society is sure of witnessing a great addition to its stores; while many individuals, unconnected with the University, together with the Boston Natural History Society, have evinced their interest in the undertaking by liberal donations. From its present prospects, we have every reason to expect an institution of permanent advantage to its members and to the University. Although the professorship of Natural History in the University has long been vacant, and consequently the students been deprived of many facilities for the study of the science, they have now the advantage of encouragement and some assistance from a gentleman connected with the Institution, whose merits have placed him, in the eyes of those most intimately acquainted with his attainments, both at home and abroad, among the most eminent natural historians in America.

The lovers of Natural History who have graduated from this Institution are reminded that their former zeal has now an object upon which to lavish its favors, while individuals in general are respectfully made acquainted with a new object of regard. 'Any donations will be thankfully received.'

X.



THE WHOOPING CRANE.

This bird, *Grus Americana*, and *Ardea Americana*, which is the largest of all the feathered tribes in the United States, spends the winter season in the Southern States and the West Indies, seldom returning northward until about the middle of April or towards the beginning of May. These birds, says Audubon, are seen on the edges of large ponds supplied with rank herbage, on fields or savannahs, now in swampy woods, and again on extensive marshes. In the Middle States, it is very seldom indeed that they are seen, and to the eastward of these countries they are unknown; for all their migrations are performed far inland, and thus they leave and return to the northern retreats, where, it is said, they breed and spend the summer. While migrating they appear to travel both by night and by day; and whether the weather be calm or tempestuous, it makes no difference to them, their power of flight being such as to render them regardless of winds. At times they utter a loud, clear, and piercing cry, which may be heard

to a very considerable distance, and which, bearing some resemblance to the whoop or yell of savages when rushing into battle, has conferred upon them their peculiar appellation. Their wariness is so great that it takes all the cunning of an Indian hunter at times to approach them. They are disturbed by the mere cracking of a stick with the feet. So long as they are aware that you have not observed them, they remain silent; but the moment that, by some inadvertency, you disclose to them your sense of their presence, some of them sound an alarm. Sometimes, indeed, towards the approach of spring, when they are ready to depart for their breeding grounds, the voice of one will startle and urge to flight all within a mile of the spot. When this happens, all the birds around join into a great flock, gradually rise in a spiral manner, ascend to a vast height, and sail off in a straight course. While busied, however, in digging holes in the mud in search of food, they can be approached. Mr. Audubon lay concealed within thirty paces of a large flock, thus buried, as it were, in the great holes they had formed, and putting him in mind of a parcel of hogs or bears at their wallowing spots, and he succeeded in disabling seven of them.

When wounded, these birds cannot be approached without caution. Mr. Audubon wounded one which he pursued, and upon approaching it the bird turned upon him in anger, and he thought fit to retreat. The bird pursued him till he plunged into the river up to the neck and called to his boatmen for relief. The crane stood looking angrily at him all the while, immersed up to his belly in the water, and only a few yards distant, now and then making thrusts at him with his bill. There he stood until the people came up; and highly delighted they were with his situation. However, the battle was soon over, for, on landing, some of them struck the winged warrior on the neck with an oar, and he was carried on board.

The food of these birds is frogs, lizards, snakes, and small alligators. They also feed on grain and pease, and dig up potatoes, which they devour with great greediness. In captivity they become very gentle, and feed freely on vegetable substances. Mr. Audubon gives the following account of one which had been presented to him. It had been wounded in the wing, on the coast of Florida, but the fractured limb had been amputated, and soon healed. During a voyage of three months, it became very gentle, and was a great favorite with the sailors. I placed it in a yard, says he, in company with a beautiful Snow Goose. This was at Boston. It was so gentle as to suffer me to caress it with the hand, and was extremely fond of searching for worms and grubs about the woodpile, probing every hole it saw, with as much care and dexterity as an Ivory-billed Woodpecker. It also watched with all the patience of a cat the motions of some mice which had burrows near the same spot, killed them with a single blow, and swallowed them entire, one after another, until they were extirpated. I fed it on corn and garbage from the kitchen, to which were added bits of bread and cheese, as well as some apples. It would pick up the straws intended to keep its feet from being soiled, and arrange them round its body, as if intent on forming a nest. For hours at a time, it would stand resting on one foot in a very graceful posture; but what appeared to me very curious was, that it had a favorite leg for this purpose; and in fact none of my family ever found it standing on the other, although it is probable that this happened in consequence of the mutilation of the wing, the leg employed being on the injured side. The stump of its amputated wing appeared to be a constant source of trouble, particularly at the approach of the winter; it would dress the feathers about it, and cover it with so much care, that I really felt for the poor fellow. When the weather became intensely cold, it regularly retired at the approach of night under a covered passage, where it spent the hours of darkness; but it always repaired to this place with marked reluctance, and never until all was quiet and nearly dark; and it came out, even when the snow lay deep on the ground, at the first appearance of day. Now and then it would take a run, extend its only wing, and, uttering a loud cry, leap several times in the air, as if anxious to return to its haunts. At other times it would look upwards, cry aloud as if calling to some acquaintance passing high in the air, and again use its ordinary note whenever its companion the Snow Goose sent forth her own signals. It seldom swallowed its food without first carrying it to the water and dipping it several times, and now and then it would walk many yards for that express purpose. So strong was the natural suspicion of this bird, that I frequently saw it approach some cabbage leaves with measured steps, look at each sideways before it would touch one of them, and, after all, if it by accident tossed the leaf into the air when attempting to break it to pieces, it would run off, as if some dreaded enemy were at hand.

CLIMATE OF EUROPE AND AMERICA COMPARED.

It is almost a matter of course to decry the climate of England. The English writers themselves talk of the *suicidal months*, and it is the only country where part of the livery of a mounted groom is his master's great coat strapped about his waist. It is certainly a damp climate, and the sun shines less in England than most other countries. But to persons of full habit, this moisture in the air is extremely agreeable; and the high condition of all animals in England, from man downwards, proves its healthfulness. A stranger, who has been accustomed to a brighter sky, will, at first, find a gloom in the gray light so characteristic of an English atmosphere; but this soon wears off, and he finds a compensation, as far as the eye is concerned, in the exquisite softness of the verdure, and the deep and enduring brightness of the foliage. The effect of this moisture on the skin is singularly grateful. The pores become accustomed to a healthy action, which is unknown in other countries; and the bloom by which an English complex-

ion is known all over the world, is the index of an activity in this important part of the system, which, when first experienced, is almost like a new sensation. The transition to a dry climate, such as ours, deteriorates the condition and quality of the skin, and produces a feeling, if I may so express it, like that of being *glazed*. It is a common remark in England, that an officer's wife and daughters follow his regiment to Canada at the expense of their complexions; and it is a well-known fact that the bloom of female beauty is, in our country, painfully evanescent.

The climate of America is, in many points, very different from that of France and Great Britain. In the Middle and Northern States, it is a dry, invigorating, bracing climate, in which a strong man may do more work than in almost any other, and which makes continual exercise or occupation, of some sort, absolutely necessary. With the exception of the 'Indian summer,' and here and there a day scattered through the spring and the hot months, there is no weather tempered so finely that one would think of passing the day in merely enjoying it; and life is passed, by those who have the misfortune to be idle, in continual and active dread of the elements. The cold is so acrid, and the heat so sultry, and the changes from one to the other are so sudden and violent, that no enjoyment can be depended upon out of doors, and no system of clothing or protection is good for a day together. He who has full occupation for head and hand, (as by far the greatest majority of our countrymen have), may live as long in America as in any portion of the globe—*vide* the bills of mortality. He whose spirits lean upon the temperature of the wind, or whose nerves require a genial and constant atmosphere, may find more favorable climes; and the habits and delicate constitutions of scholars and people of sedentary pursuits generally in the United States, prove the truth of the observation.

The habit of regular exercise in the open air, which is found to be so salutary in England, is scarcely possible in America. It is said, and said truly, of the first, that there is no day in the year when a lady may not ride comfortably on horseback; but with us, the extremes of heat and cold, and the tempestuous character of our snows and rains, totally forbid, to a delicate person, any thing like regularity in exercise. The consequence is, that the habit rarely exists, and the high and glowing health so common in England, and consequent, no doubt, upon the equable character of the climate in some measure, is with us sufficiently rare to excite remark. 'Very English-looking' is a common phrase, and means very healthy-looking. Still our people *last*; and though I should define the English climate as the one in which the human frame is in the highest condition, I should say of America, that it is the one in which you could get the most work out of it.

Atmosphere, in England and America, is the first of the *necessaries* of life. In Italy it is the first of its *luxuries*. We breathe in America, and walk abroad, without thinking of these common acts but as a means of arriving at happiness. In Italy, to breathe and to walk abroad are themselves happiness. Day after day, week after week, month after month, you wake with the breath of flowers coming in at your open window, and a sky of serene and unfathomable blue, and mornings and evenings of tranquil, assured, heavenly purity and beauty. The few weeks of the rainy seasons are forgotten in these long halcyon months of sunshine. No one can have lived in Italy a year, who remembers any thing but the sapphire sky and the kindling and ever-seen stars. You grow insensibly to associate the sunshine and moonlight only with the fountain you have lived near, or the columns of the temple you have seen from your window, for on no objects in other lands have you seen their light so constant.

I scarce know how to convey, in language, the effect of the climate of Italy on mind and body. Sitting here, indeed, in the latitude of thirty-nine, in the middle of April, by a warm fire, and with a cold wind whistling at the window, it is difficult to recall it, even to the fancy. If I may make use of language used in a moment of passionate recollection,

> My very spirit seemed to melt
> As swept its first warm breezes by!
> From lip and cheek a chilling mist,
> From life and soul a frozen rime,
> By every breath seemed softly kissed—
> God's blessing on its radiant clime!

I do not know whether life is prolonged, but it is infinitely enriched and brightened by the delicious atmosphere of Italy. You rise in the morning, thanking Heaven for life and liberty to go abroad. There is a sort of opiate in the air, which makes idleness, that would be the vulture of Prometheus in America, the dove of promise in Italy. It is delicious to do nothing—delicious to stand an hour looking at a Savoyard and his monkey—delicious to sit away the long, silent noon in the shade of a column, or on the grass of a fountain—delicious to be with a friend without the interchange of an idea—to dabble in a book, or look into the cup of a flower. You do not read, for you wish to enjoy the weather. You do not visit, for you hate to enter a door while the weather is so fine. You lie down unwillingly for your siesta in the hot noon, for you fear you may oversleep the first coolness of the long shadows of sunset. The fancy, meantime, is free, and seems liberated by the same languor that enervates the severer faculties; and nothing seems fed by the air but thoughts, which minister to enjoyment.

The climate of Greece is very much that of Italy. The Mediterranean is all beloved of the sun. Life has a value there, of which the rheumatic, shivering, snow-breasting, blue-deviled idler of northern regions has no shadow, even in a dream. No wonder Dante mourned and languished for it. No wonder at the sentiment I once heard from distinguished lips—*Fuori d' Italia tutto e esilio.*

This seems like describing a Utopia; but it is what Italy seemed to me. I will confess it is exaggerated, if an artist can be found who does not agree with me.—*Willis.*

PROCLAMATION OF INDEPENDENCE IN BOSTON, IN 1776.

From the (British) United Service Journal.

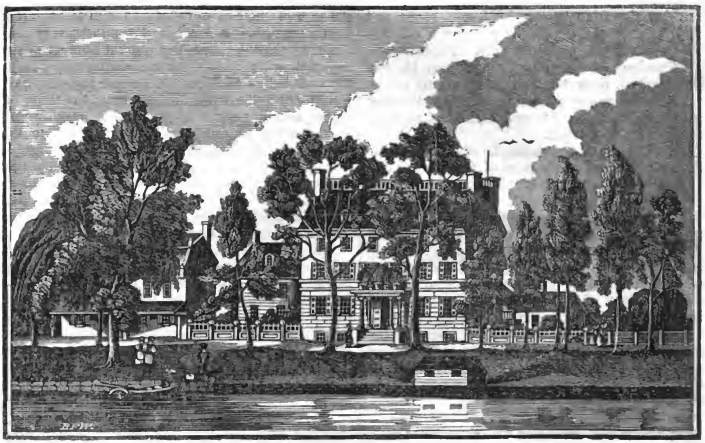
The following extract is from the Narrative of a British officer, who was a prisoner on parole in Boston at the time the event took place.

On the seventeenth of July, the British officers on parole received each a card from the governor, requesting the honor of his attendance at a specified hour on the morrow in the Town Hall. As rumors were already afloat touching the decided step that had been taken at Philadelphia, we were not without a suspicion as to the purport of this meeting, and we hesitated for a while as to the propriety of giving the sanction of our countenance to a proceeding which we could not but regard as traitorous. Curiosity, however, got the better of scruples which, to say the truth, were not very well founded; and it was resolved, after a brief consultation, that the invitation ought to be accepted. Accordingly, at the hour appointed, we set out, arrayed in the full dress of our corps. As we passed through the town, we found it thronged in all quarters with persons of every age and both sexes. All were in their holiday suits, every eye beamed with delight, and every tongue was in rapid motion. King Street, Queen Street, and the other streets adjoining the Council Chamber, were lined with detachments from two battalions of infantry, tolerably well equipped; while in front of the jail a brigade of artillery was drawn up, the gunners standing by their pieces with lighted matches; nor, to do them justice, was there any admixture of insolence in the joy which seemed to pervade all classes. Whether long residence among them, and the anxiety which we displayed never wantonly to offend their prejudices, had secured their esteem, or whether they considered it beneath the dignity of a grave people, standing in a position so critical, to vent their spleen upon individuals entirely at their mercy, I do not know; but the marked respect with which we were treated, both by soldiers and civilians, could not be misunderstood. The very crowd opened a lane for us to the door of the hall, and the troops gave us, as we mounted the steps, the salute due to officers of our rank.

On entering the hall, we found it occupied by functionaries, military, civil, and ecclesiastical; among whom the same good humor and excitement prevailed as among the people out of doors. They received us with great frankness and cordiality, and allotted to us such stations as enabled us to witness the whole of the ceremony, which was as simple as the most republican taste could have desired. Exactly as the clock struck one, Colonel Crafts, who occupied the chair, rose, and, silence being obtained, read aloud the declaration, which announced to the world that the tie of allegiance and protection, which had so long held Britain and her North American colonies together, was forever separated. This being finished, the gentlemen stood up, and each, repeating the words as they were spoken by an officer, swore to uphold, at the sacrifice of life, the rights of his country. Meanwhile, the town clerk read from a balcony the Declaration of Independence to the crowd; at the close of which, a shout began in the hall, passed like an electric spark to the streets, which rang with loud huzzas, the slow and measured boom of cannon, and the rattle of musketry. The batteries on Fort Hill, Dorchester Neck, the castle, Nantasket, and Long Island, each saluted with thirteen guns, the artillery in the town fired thirteen rounds, and the infantry, scattered into thirteen divisions, poured forth thirteen volleys, all corresponding to the number of States which formed the Union. What followed may be described in a few words. There was a banquet in the Council Chamber, where all the richer citizens appeared, where much wine was drunk, and many appropriate toasts given. Large quantities of liquor were distributed among the mob, whose patriotism, of course, grew more and more warm at every draught; and when night closed in, the darkness was effectually dispelled by a general and what was termed then a splendid illumination. I need not say that we neither joined, nor were expected to join, in any of the festivities. Having sufficiently gratified our curiosity, we returned to our lodgings, and passed the remainder of the evening in a frame of mind such as our humiliating and irksome situation might be expected to produce.

Deafness.—A medical writer gives the following counsels to those who wish to preserve the sense of hearing unimpaired. They are worth attending to. To hear well and avoid deafness one must guard against wet feet, thin shoes, cold currents and draughts of air, keeping on wet clothes, sleeping in damp rooms and unaired beds, going into the night air from heated apartments, living in marshy and low situations, &c. Shunning these things, those who would retain their hearing unimpaired till old age should attend to their general health, breathe a pure air, take as much outdoor exercise as they can, live on plain but nutritious food, keep the mind calm and tranquil, and be especially careful to prevent constipation of the bowels.

Peter Parley.—Mr. C. J. Hendee has recently published, in a neat form, Peter Parley's Book of the United States, Geographical, Political, and Historical, illustrated by engravings. It exhibits the great features of the country, not sectionally, as is usually done, but on a principle of classification which embraces in one view all that may relate to a particular topic; and in order to a better understanding of our own country, the writer takes occasion, throughout the work, to keep up a constant comparison between what pertains to this country and others. Notwithstanding the multitude of works which Peter Parley has presented to the public, he has not exhausted his fund of useful information, but he has contrived to give great interest to the book before us. It contains information valuable for adults as well as youth, though it is designed chiefly for the latter class of readers.



St. Mary's Hall, Green Bank, Burlington, New Jersey.

ST. MARY'S HALL.

This is an institution for the education of young ladies on Christian principles, recently opened by the Reverend Doctor Eaton and lady, under the immediate supervision of the bishop of the diocese of New Jersey. The administration of the business of instruction is committed to a principal teacher, a well-educated, experienced, and accomplished Christian lady, with assistant teachers in the several branches. It is located in one of the pleasantest spots in our land, 'the green bank of Burlington.' The position, on the Delaware, a little more than an hour's journey, by steamboat or railroad, from Philadelphia, and from five to six hours' from New York, is unsurpassed for healthiness, convenience, and beauty. The buildings are new and erected expressly for a female seminary, are extensive and perfectly commodious, with spacious grounds, a well cultivated garden, and a greenhouse. The school-rooms are of the best construction, light, airy, and agreeable; and the whole establishment is fitted up and furnished in the best manner, and is supplied with fixtures and apparatus of every kind, adapted to the most extended course of female education.

The scholastic year is divided into a summer term and a winter term, of twenty-two weeks each; the former commencing on the first Wednesday in May, and the latter on the first Wednesday in November. Two vacations, of four weeks each, immediately precede the days just named. The regular expenses for each term are one hundred dollars.

It is believed that no similar institution can present superior advantages for those young ladies for whom Christian parents seek a Christian education. Nothing is spared to promote to the utmost the physical, intellectual, and spiritual improvement of the pupils intrusted to it; and to render them, by the due cultivation of the mind, the manners, and the heart, true Christian ladies, prepared, through grace, for usefulness and influence here, and for 'glory, honor, and immortality' hereafter.

SILK AND THE SILK TRADE.

We have received a file of papers from China, which give us an interesting account of the silkworms and silk in China, which we have condensed for the Advertiser. This subject is at the present time highly important to a large class of the United States, who are raising the silkworm and cultivating the mulberry tree. The silkworm we believe has been raised in China beyond the recollection of man, and silk was worn there long before the invention of the loom and the distaff. The mythologists of China ascribed the inventions of the loom and the distaff to the gods, and many of the Chinese at the present day are of opinion that the distaff and the loom were the inventions of the ancient monarchs of China, who, in their traditionary history, assume the importance of gods.

Europe has received silk from China for more than two thousand years. Its introduction into Europe sufficiently indicates the country from which it came. There is a Greek name which resembles the word implying silk in most of the Chinese dialects, and which is identical with the pronunciation of Corea *seer*; in the mandarin dialect it is pronounced *sze*; but in a language of which the written character affords no indication of sound, the pronunciation must be as varied as in those savage tongues which are not at all committed to writing. The Latin name sufficiently

resembles the Manchoo and Mongo *sirke* and *sirkek*, to show the people by whom the silk was carried on its departure from China. Those names, altered perhaps in their long journey over Central Asia, acquired, from the cultivated organs of the Italians, the more agreeable form of *serica*, by some modification of which it is still known in most of the languages of Europe.

In ancient times an example of industry was annually given by the empress of China, who fed the laborious insects with the leaves she had gathered with her own hands, from trees growing within the verge of the imperial palace. The produce of the worms was afterwards spun and woven by herself. This was a politic mode of inducing habits of industry, and it appears to have been retained, on account of the pleasing nature of the occupation, long after the necessity of example had ceased. Since the accession of the present family, the custom has been discontinued; a part of the palace is, however, still stocked with insects and mulberry trees for the amusement of the royal ladies; and the government has not neglected the manufacture. Treatises of considerable extent have been published to point out the best mode of rearing worms and managing silk, showing in complete detail the best method of preserving and of hatching the eggs, and of feeding the worms, the diseases to which they are subject, and the modes of prevention and cure, the best form of building, and manner of warming and ventilating their habitations, and every other particular. The precautions recommended, although not rigorously adopted by every manufacturer, have greatly tended to improve the quantity and quality of the produce.

During the fine season, worms are reared and silk made in almost every house, and any spare room is used for their habitation; but by those who make the rearing of worms a profession, a dry, airy spot is chosen, free from pungent smells and loud noises. A square room is built, with the entrance, if possible, towards the south. It is usual to have a window on each side, covered with white paper to exclude the air, and provided with thick blinds to shut out the light when darkness is necessary. A stove, or more, is furnished to keep up a constant and equal temperature throughout the room, and to prevent any chance of damp, which is very injurious to the worm. Around the room, several rows of shelves are fixed, one above another, about a foot apart, not against the wall, but leaving a clear passage, wide enough for a person to walk outside all round the room, and an open space in the middle. These shelves are formed of rushes or withes, and are intended to receive the worms when hatched. The hatching may be accelerated or retarded at pleasure, by exposing the eggs to heat or cold, and the usual practice is to keep them in a cold place until the mulberry trees have put forth their young leaves; the paper on which the eggs are deposited is then brought out, and hung up in such a situation that the sun may shine on the back of the sheets. This is repeated for two or three days, during each of which the paper is allowed to remain exposed to the rays of the sun only long enough to acquire a gentle warmth. A great heat would be very prejudicial. On the fourth day a great number of the eggs will be hatched. All the worms which leave the eggs before this time are thrown away, as they would not agree with the others in the times of eating, casting their skin, or spinning, which would be the cause of much additional trouble to the attendants. The papers are then carefully weighed, turned upside down, and gently placed upon young mulberry leaves, cut into small shreds, to be more easily masticated by the tender worms. The smell of the fresh leaves soon induces the worms to leave the paper, which is again carefully weighed. The weight of the worms is of course known by the difference of the present and former weights, and the quantity of food regulated accordingly.

In the first days of their existence the Chinese worms are fed nearly every half hour, and the number of meals is gradually diminished as the worms grow older. After a few days they are fed four times a day, and the leaves are no longer shred, but given whole as they are gathered. After this the number of meals suffers no diminution.

The daily process of feeding the worms is very carefully attended to. They are kept free from noise, bad smells, or other causes of annoyance, and in some places even the food and dress of the attendants are scrupulously regulated. Small stoves are used occasionally for drying the air of the apartment during the prevalence of damp weather; shades are placed over the windows when the heat of the sun would be excessive; in case of a drying wind, small vessels of water are interspersed between the shelves to refresh the air of the room; if the worms appear sickly and heated, a fine powder of dry mulberry leaves is thrown over them; in short, every precaution is taken which the interests of the proprietor may suggest, or the delicate habits of the animal may seem to render necessary.

Notwithstanding every precaution, the worms sometimes die, particularly at the time of moulting or casting their skin. This is a season of danger which occurs three times during the short life of a silkworm. In the fourth day of its existence it falls sick, refuses food, and is then said by the Chinese to sleep. Within twenty-four hours it casts its skin, with much apparent pain. Two days usually elapse before health and appetite return, and after two days of health a second sleep approaches; the pain and danger is repeated, and, after an equally short interval of health, the third and last sleep attacks the laborious insect. When this sleep is completed, the worm enjoys a longer interval of health than at any other period. For five or six days it continues to eat heartily, and then begins to spin the 'golden tomb,' to the formation of which its whole existence appears consecrated.

The silkworm of Europe has one step of danger more than that of China, and casts its skin four times instead of three. It is the opinion of some naturalists that this difference must be the effect of climate; but such a supposition is negatived by the fact that the silkworm of three casts, like that

of China, is known in Europe, and that in some districts of Lombardy it is reared, as well as that of four casts, though the latter is preferred from the larger quantity of the produce. The worm of four casts, being the best known in Europe, was probably the species introduced by Justinian; the smaller sort was most likely imported in one of the many vessels which have sailed between Europe and China for nearly four centuries. Both species are cultivated in Bengal, and are both thought by the Hindoos to have been brought from China. The smaller sort is known there by the name of the monthly worm, and can be brought to spin eight or ten times a year; the other is called the annual worm, and produces silk in March only. —*Portland D. Adv.*

Unitarian Church, Bangor, Maine.

UNITARIAN CHURCH, BANGOR, MAINE.

The Union Street Brick Church was commenced in the summer of 1828, for the Independent Congregational Society in Bangor. It is situated on the corner of Union and Main Streets, fronting on the latter, opposite to the Bangor House. It was completed in 1829. The length of the edifice is eighty feet, the width sixty-seven feet. Its external appearance is plain and neat. A beautiful cupola, with a clock, is placed upon the main building. The side walls of the house are twenty-seven feet in height. The interior is finished in a neat style, with but little ornament, and contains one hundred and twenty-six pews, situated on a broad aisle, two side aisles, and a cross aisle in front of the pulpit. A gallery is extended across the front, the greater portion of which is occupied by the organ and singing choir.

The dedication of this church took place in 1829, on which occasion the sermon was preached by the Reverend Benjamin Huntoon, then of Canton, Massachusetts, who afterwards received a call from the society above mentioned worshipping in this church. He was succeeded by the Reverend Frederick H. Hedge, of Cambridge, who still continues the pastoral care. A second Unitarian church was commenced a year or two since on Broadway, in Bangor, but, owing to the existing commercial embarrassment, the proprietors suspended operations.

Self-Education.—Let every youth early settle in his mind that, if he would ever be any thing, he has got to make himself; or, in other words, to rise by personal application. Let him always try his own strength, and try it effectually, before he is allowed to call on Hercules. Put him first upon his own invention, send him back again and again to the resources of his own mind, and make him feel that there is nothing too hard for industry and perseverance to accomplish. In his early and timid flight, let him know that stronger pinions are near and ready to sustain him, but only in case of absolute necessity. When, in the rugged paths of science, difficulties which he cannot surmount impede his progress, let him be helped over them; but never let him think of being led when he has power to walk without help, or of carrying his ore to another's furnace when he can melt it in his own.

Russian private Drosky.

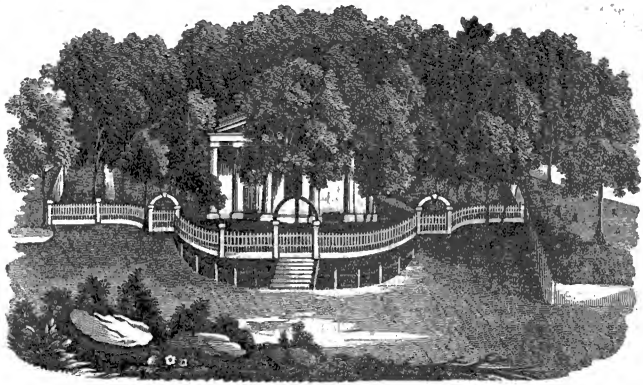
RUSSIAN PRIVATE DROSKY.

The Russian drosky, says a traveller in the north of Europe, is by no means a comfortable vehicle, though I have heard it spoken of as such; on the contrary, these vehicles appear to me both unpleasant and dangerous. The jolts they give the unhappy passenger, who for the first time enters them, are quite fearful, particularly in crossing over planks or logs of wood which happen to be lying across the street wherever any buildings are carrying on. In such cases, if there should be two persons in the carriage, the one who is sitting sideways, as one of them must do, runs a very great risk of being pitched out into the street, as he has nothing to hold himself by. The accommodation for two is bad enough in every respect; one of them is under the disagreeable necessity of sitting close up to the driver, who is constantly swaying back every time the vehicle passes over a stone or rut in the road. But this is not by any means the worst; the drosky-drivers are the most filthy set of people imaginable. On alighting, I always, as if by instinct, gave myself a hearty shake, much in the fashion of a dog who has been in the water, for fear of carrying away with me any of those living creatures with which these fellows abound.

The drosky is a very low four-wheeled carriage, the body of which is so near the ground that the lower part of one's dress is either enveloped in dust or besmeared with mud. It is, in fact, nothing more than a narrow bench, at the hinder part of which is a small back, about as high as the middle of a man's body, and against which he leans, sitting straddling across the bench with his legs straight down on each side, like a dragoon on his horse; if a second person, he sits on the same bench sideways, with nothing to rest his back against; and then, in front of all, comes the driver, with his legs also across it, and separated only from the person next to him by a small iron bar about six inches high, which affording him no support, he must necessarily, should there be two persons, jolt against the one sitting nearest to him.

The public drosky-drivers are all dressed alike. They wear an ill-shaped, low-crowned hat, with a large buckle on it; a blue coat, which folds over the breast and is tied around the waist by a sash, the skirts hanging a little below the knees; and trowsers of great width tucked inside the boot, which comes rather more than half way up the calf of the leg. The color of the trowsers is generally similar to that of the coat, or only a few shades lighter. On their backs they carry a tin plate, on which is marked their number. They all wear long beards, and are, altogether, to an English eye, queer-looking charioteers.

Some of the droskies belonging to private gentlemen are neat and pretty-looking little carriages. They have what are called, I believe, splashing-leathers, to ward off the dirt, and are furnished with padded seats and backs; but as they are on the same principle as the public drosky, they are, like them, very inconvenient for more than one person. They are generally drawn by two horses, one of which does all the work, and *the other* is merely kept for show, being *taught* to bend its neck outwards, and toss the head up and down. This bearing of its head has a dashing and spirited effect at first sight, but, when once accustomed to it, one is apt to pronounce it a foolish fashion, as it must certainly be a very painful action to the poor creature, who has no doubt learnt it to his cost. We were given to understand that what is considered by the Russian gentry to be 'the knowing thing' is, to bring the show-horse to such a pitch of agility that, while driving rapidly, he shall touch the ground with his nostrils, and toss the snow up in the air as he prances along. Some of those we observed could very nearly, as I thought, accomplish this feat. The horses in a gentleman's drosky were always well groomed, and the harness very prettily worked, and ornamented with small shells or beads.



Nashua Cemetery.

NASHUA CEMETERY.

No description or engraving can do justice to this beautiful spot. It is situated in Nashua, New Hampshire, nearly equidistant between two manufacturing villages. The church, which is built in the style of the Parthenon, eighty feet in length by forty-eight in width, was erected in the spring of 1827, at an expense of about four thousand dollars. It was dedicated June 27, 1827, at which time the Reverend Nathaniel Gage was ordained its pastor. It stands in a grove of oak, on a swell overlooking the Nashua, which is but a few rods distant, and for its simplicity, and its beautiful and picturesque situation, is perhaps unrivalled in New England.

In the winter of 1834–5, the idea was first suggested of appropriating the beautiful grove and grounds in the rear of the church to the purposes of a cemetery. A number of public-spirited individuals, of different sects, cöoperated in the enterprise. About fifty lots were immediately taken, at twenty-five dollars each, and the proceeds expended in the erection of fences and improvement of the grounds. One lot was appropriated gratuitously to each religious society in town for the use of their pastor. The cemetery is in the form of a parallelogram, containing about an acre, is intersected by paths, and is divided into about ninety lots, seventeen feet by twenty each. The consecration took place in June, 1835, when an address was delivered by the Honorable Charles H. Atherton, and other appropriate services performed.

In the summer of the same year, the grounds being found insufficient for the accommodation of a thriving village, a lot adjoining, containing about one acre more, and covered likewise with a fine growth of oak, was purchased by an association of individuals, at an expense of about thirteen hundred and fifty dollars, making the whole expenditures about twenty-five hundred dollars. It was annexed to the old cemetery, and consecrated to the same use. This was also laid out in one hundred and four lots, about sixteen feet by seventeen each, several of which are appropriated to the use of the poor; and the whole cemetery is surrounded by a neat, white fence. More than a hundred lots have been disposed of already, on several of which improvements have been made; and if the same spirit shall continue to animate the proprietors in the decoration and improvement of their grounds that led to the commencement of the enterprise, it will be an ornament to the town, and a just source of pride to its citizens.

The associations with such a spot cannot be otherwise than delightful. Here the sadness of death is in a degree removed by the beauty which is everywhere addressed to the eye. Green foliage hangs over the graves of the departed, birds build their nests and sing among the branches, the beautiful stream glides majestically by, and the church reminds one continually of the mansions in the skies, as well as of the tomb and the grave. As you sit and hear the words of heavenly wisdom from the sacred desk, you may feel that your departed relatives are sleeping near you, and fancy that you are hardly separated from them, that you are both contemplating spiritual things. The same breeze which sweeps through the grass that waves on their graves, but a few feet distant, comes through the opened window and refreshes you. The bitterness of death is taken away, and, instead of going to a grave-yard which is destitute of every thing cheering, and which appears almost like a charnel-house, you visit a delightful spot, intersected with beautiful walks, where death seems like sleep, and where you cannot help realizing that though the dust has returned to the earth as it was, the spirit has returned to God who gave it. We hope that the fine taste displayed by the citizens of Nashua will not be overlooked by persons who visit that village, and that every visiter will go thence resolving to do something to divest

death of many of its horrible associations, and to try to induce his townsmen to select some beautiful little place, (which may be improved and ornamented with but little expense,) where each family may have a spot in which they may rest together in peace, and mingle their ashes after death; and where the surviving members may plant vines, and train flowers, and place wreaths around the graves of those to whom they were attached by the strongest ties of affection.

Putnam, Small, and Warren.—At the action on Bunker's Hill, Putnam said to his men, 'Aim at the handsome coats, pick off the commanders.' When the British were driven back the second time, and nearly all the officers killed, the gallant Major Small, dressed in dazzling uniform, a tempting mark for a soldier, was left standing alone, every one having been shot about him. The American marksmen by Putnam's side levelled their muskets to shoot him, when Putnam suddenly recognised in Small an old and particular friend and fellow-soldier. 'For God's sake,' exclaimed Putnam, 'for God's sake, don't kill that officer; I love him as a brother;' and, springing forward, threw up the muzzles of the deadly muskets with his sword, and saved his life. Small was so near as to hear him make the remark, and he repeated it in the British camp and among the British officers, whence it found its way to the Yankees.

When the Americans were retreating and General Warren had left the redoubt, he was recognised by his friend Small, who called to him and begged him to stop and save his life. Warren turned round and seemed to recognise him, but would not stop. Small ordered his men not to fire at him, and threw up the muzzles of the muskets with his sword. But it was too late. The fatal ball had gone, and Warren fell, eighty yards from the redoubt.

MORGAN.

After Cornwallis's arrival in Virginia he sought for an opportunity to escape into North Carolina, but the address and vigilance of Lafayette disconcerted all his schemes. After the British commander arrived at Yorktown and commenced his fortifications, says Mr. Sparks, Lafayette asked Colonel Barber if he knew of a trusty, capable soldier, whom he could send as a spy into Cornwallis's camp. He answered that there was one in the New Jersey line, by the name of Morgan, who was in all respects suited to such an enterprise. The general sent for him, and told him that he had a very difficult task to propose to him, which was, that he should pretend to desert, go over to the British camp, and enlist as a soldier. Morgan answered, that he was ready to do any thing in the service of his country, and to oblige his general, but that his feelings revolted at such a proposal. He must assume the character of a spy, and, if detected, he would not only lose his life, but bring a lasting disgrace upon his name. He desired the reputation of a good soldier, and a zealous, true lover of his country, but he could not endure the thoughts of being a spy. After some conversation, however, he told the general that he would go, on one condition, which was, that, in case any disaster should happen to him, the general should make the true state of the case known, and have the particulars published in the New Jersey gazettes, that no reproach might come upon his family and friends for his supposed misconduct. To this the general assented.

Morgan joined the British camp and enlisted. Lafayette left every thing to his discretion, but told him that he wished intelligence of important movements, and moreover desired the impression particularly to be given, that he had boats enough to transport all his army across James river. Morgan had been a little time in camp, when Lord Cornwallis sent for him and asked him many questions. Tarleton was with him at the time, and inquired of Morgan, among other things, how many boats General Lafayette had on the river. He said he did not know the exact number, but he had been told there were enough to carry over all the army at a moment's warning. 'There!' exclaimed Cornwallis to Tarleton, 'I told you this would not do;' from which it appeared that they had this project in view.

The French fleet in the mean time arrived. General Lafayette had been out to reconnoitre, and when he returned he found six men in the British uniform and one green-coated Hessian at his quarters; and among them was Morgan. 'Well, Morgan,' asked the general, with surprise, 'whom have you got here?' 'Five British soldiers, who have deserted with me, and a Hessian whom we captured at the outpost,' was his reply. He went on to say, that, as the French fleet had arrived, and he presumed his services could no longer be of any use to his general in the British camp, he had returned, and these deserters and this prisoner were the fruits of his expedition.

The general sent for Morgan the next day, and told him that his conduct had been in the highest degree meritorious, and that he proposed to make him a sergeant. Morgan listened to the proposal, and said he was highly gratified to have pleased his commander, but declined the promotion. He added, that he believed himself a good soldier, but that he was by no means certain he should make a good sergeant; that he joined the army from a principle of duty and patriotism, because he believed his country needed his services, and the same motives induced him to prefer a station where he was satisfied he should be the most useful. The general then offered him money, but this he refused also, saying his circumstances were such at home that he did not need money. 'What then can I do for you?' inquired the general. 'I have one favor to ask,' replied Morgan. 'During my absence some person has taken my gun; I set a great value upon it, and, if it can be restored, it will give me particular pleasure.' The gun was described, and the general issued an order requiring it to be returned. This was all the reward that Morgan could ever be prevailed on to accept.

The above anecdote was related to me by General Lafayette himself, nearly fifty years after the event, with much warmth of feeling and admiration of the soldier's magnanimity.

'HARK! SHE BIDS ALL HER FRIENDS ADIEU.'

For the American Magazine.

WORDS BY DR. WATTS.....MUSIC BY JONATHAN F. HEARD, OF WAYLAND.

TUTTI.

Hark! she bids all her friends a - dieu, Some angel calls her to the spheres; Our eyes the radiant

SOLO TREBLE.

saint pur - sue Thro' liquid tel-e-scopes of tears. And is the lovely, lovely shadow fled? And

2nd. Treble.

SOLO.

is the lovely, lovely shadow fled? The blooming wonder of her years,

TUTTI.

And is the lovely, lovely shadow fled?

b89080498223a

So soon enshrin'd among the dead? So soon enshrin'd a - mong the dead? She justly claims our pious tears.

Fare - well bright soul, fare - well bright soul, a short fare - well, Till we shall meet; till

SOLO.

AD LIB. GRAVE.

we shall meet a gain a - bove In the sweet groves where pleasures dwell, And trees of life

bear fruits of love, And trees of life, And trees of life bear fruits of love.

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